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**National Highway  
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FRC ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CASE NO. 90-1

FLEET - 1990 SAAB 900S

LOCATION - [REDACTED] CT

ACCIDENT DATE - [REDACTED]

Contract No. DTNH22-87-C-07169

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
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# **TECHNICAL REPORT STANDARD TITLE PAGE**

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16. Abstract  This on-site investigative report focuses on a 1990 Saab 900S that was struck on its left side by the left side area of a 1978 Oldsmobile Cutlass. The driver of the Cutlass lost control of the vehicle as it yawed in a clockwise direction before impacting the stopped Saab. The 9 o'clock direction of force impact deployed the Saab's driver air bag system.  The four occupants of the Saab were wearing the active 3-point lap and shoulder belt systems. The driver loaded the intruding left door panel and sustained a ruptured spleen (AIS-3), a lacerated diaphragm (AIS-3), multiple left rib fractures with bilateral hemo/pneumothorax (AIS-4), and a left chest contusion (AIS-1). The left rear occupant sustained a pelvic fracture (AIS-2). The right front and right rear occupants sustained minor AIS-1 level injuries.					
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# FRANKLIN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

FRC CASE NO. 90-1

FLEET - 1990 SAAB 900S  
LOCATION - [REDACTED], CT

## SUMMARY

This crash occurred on [REDACTED], 1990, at approximately 1914 hours. A 1990 Saab 900S (dealer demo) was being test driven by potential buyers when the crash occurred. It was occupied by four occupants which included the salesman who was seated in the left rear position. A 17-year-old male was the initial driver who drove the vehicle into a parking area at a small commercial development. He and the right front occupant exchanged positions as the adult male became the driver. All four occupants were wearing the active 3-point lap and shoulder belt system. The adult male driver backed the vehicle from the parked position and pulled forward toward the north (right) roadedge. He apparently stopped the vehicle and checked the location of the controls (i.e. lights, wipers, etc.).

Vehicle #2, a 1978 Oldsmobile Cutlass, 2 dr. sedan, was proceeding in a westerly direction in the curb lane of the four lane highway at a witness estimated speed of 40-45 mph. The driver braked for a red signal phase which caused his vehicle to yaw in a counterclockwise direction. His right rear tire was bald with the steel belts showing in the center tread area. The driver applied a rapid clockwise steering input which redirected the vehicle into a clockwise yaw. The Cutlass departed the roadway in a near broadside configuration and impacted two mailbox posts with its left front fender area, forward of the axle position (CDCs of 10-LFEN-1).

The Cutlass continued in a broadside orientation and impacted the left side of the Saab with its left side area. As the vehicles crushed, the left frontal area of the Cutlass engaged with the deformed side surface of the Saab. CDCs were 09-LYAW-3 for the Saab and 09-LYEW3 for the Cutlass. The impact induced a clockwise yaw to the Saab and accentuated the CW yaw of the Cutlass. The left rear quarter panel area of the Oldsmobile subsequently contacted the left frontal area of the Saab, resulting in minor damage.

The Saab was displaced laterally approximately 30 ft. and rotated 70-80° in a clockwise direction before coming to rest on a sidewalk. The Cutlass rotated rapidly in a CW direction as it separated from the Saab and endswiped a utility pole with its rear bumper.

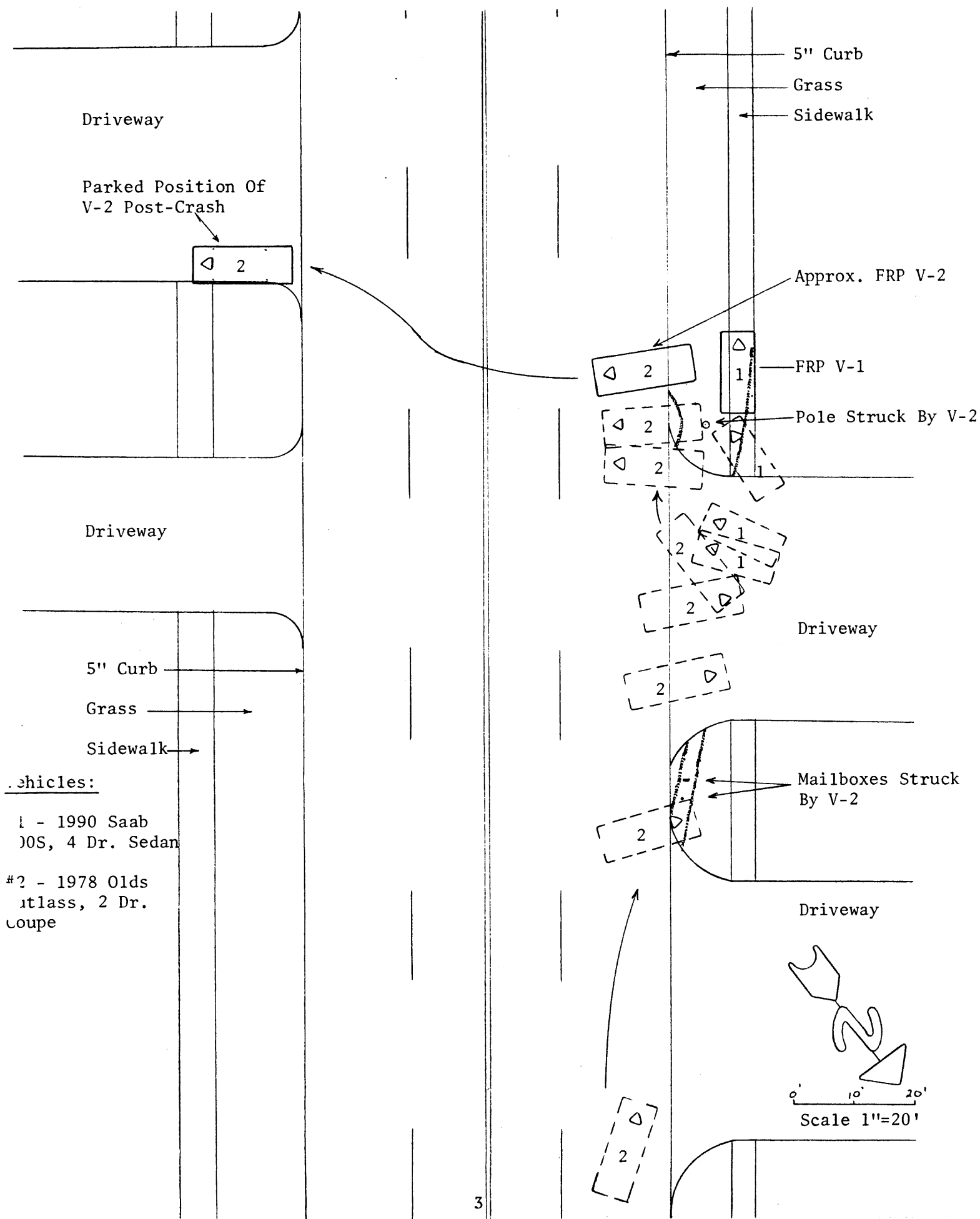
The driver air bag system of the Saab deployed as a result of the side impact sequence. The bag measured 24" in diameter and was approximately 11" in depth. Internal tether straps held the bag in a doughnut-like shape.

The belted 44-year-old male driver of the Saab loaded the intruding left door panel with his torso and abdominal areas which resulted in left rib fractures 3-7 with bilateral pneumothorax (AIS-4), ruptured spleen (AIS-3), a 5cm laceration of the left diaphragm (AIS-3), and a contusion

of the lateral aspect of the left chest wall. The left 7th rib fracture probably impacted and fractured the spinous process of L-2 (AIS-2).

The belted left rear 39-year-old male occupant loaded the intruding left rear door panel and armrest which fractured his left ilium (AIS-2), contused his left thigh (AIS-1), and fractured his left 3rd rib (AIS-1). The impact force resulted in a self-inflicted fracture of his #8 tooth (AIS-1).

The belted right front and right rear occupants of the Saab sustained minor contusions (AIS-1).



FRANKLIN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

FRC CASE NO. 90-1

FLEET - 1990 SAAB 900S  
LOCATION - [REDACTED], CT  
ACCIDENT DATE - [REDACTED] 1990

ACCIDENT DATA

Location: City arterial  
City/Township: [REDACTED] CT  
Area/Type: Urban/Commercial  
Accident Date/Time: [REDACTED] 1990, 1914 hours  
Investigating Police Agency: [REDACTED] Police Department  
Accident Type: Car/Car, side to side impact configuration  
Air Bag Vehicle Occupant Injury Severity: Severe (AIS-4)

AMBIENCE

Viewing Conditions: Dark, lighted  
Weather: Overcast  
Precipitation: None  
Road Surface: Wet

HIGHWAY

Type: City arterial  
Number of Lanes: 4  
Width: 59'6"  
Surface: Asphalt, worn condition  
Median: None  
Edge: North edge - 5" curb  
South edge - 3" curb

## HIGHWAY (CONT'D.)

Vertical Alignment:	Level
Horizontal Alignment:	Straight
Estimated Coefficient of Friction:	.55
Traffic Density:	Moderate

## TRAFFIC CONTROLS

Signals:	On-colors, overhead signal system located 375' west of the accident scene
Signs:	No pertinent signs
Markings:	Yellow full barrier center lines, broken white lane lines
Speed Limit:	40 mph

## VEHICLES

	<u>Air Bag Vehicle</u>	<u>Vehicle #2</u>
Description:	1990 Saab 900S, 4 dr. sedan	1978 Oldsmobile Cutlass, 2 dr. sedan
V.I.N.:	YS3AK46D2L3 (production number deleted)	3K47F8G (production number deleted)
Color:	Blue	Blue
Odometer:	2,556	123,511
Engine:	6 cylinder	8 cylinder, 260 C.I.D.
Transmission:	3-speed, automatic, console mounted transmission selector lever	3-speed automatic, column mounted transmission selector lever
Steering:	Power assisted	Power
Brakes:	4-wheel disc with anti-lock	Power front wheel disc
Padding:	Upper, mid, and lower instrument panel, soft-edged steering wheel rim, adjustable head restraints, side door panels and armrests	Upper instrument panel, door panels and armrests

VEHICLES (CONT'D.)

	<u>Air Bag Vehicle</u>	<u>Vehicle #2</u>
Active Restraints:	3-point lap and shoulder belts in the four outboard seated positions, center rear lap belt	3-point lap and shoulder belts in the front outboard seated positions, 3 rear seat lap belts
Passive Restraints:	Driver air bag system that deployed at impact with vehicle #2	None
Defects:	None	None
Tow Status:	Towed due to damage	Towed due to damage

VEHICLE DAMAGE

	<u>Air Bag Vehicle</u>	<u>Vehicle #2</u>
Exterior:	<p>Primary - The left side area of the air bag equipped Saab 900S sustained moderately severe damage from its impact with the left side area of vehicle #2. Maximum crush was 14.25" located on the sill 10" forward of the left B-pillar. Direct contact damage began 4" forward of the left rear axle position and extended 97.3" forward. The combined induced and direct contact damage began 6.5" rearward of the axle location and extended 111.25" forward.</p> <p>Rescue personnel removed the left front door and forced the left rear door open. They also cut the upper A- and B-pillars and pulled the roof rearward to aid the occupants of the vehicle. The crush profile at the mid door level was altered; therefore crush values at C<sub>2</sub> and C<sub>4</sub> were estimated at this level and measured at the sill where applicable. Crush values at door level were as follows: C<sub>1</sub>=0", C<sub>2</sub>=11.5", C<sub>3</sub>=6", C<sub>4</sub>=14.25", C<sub>5</sub>=5", C<sub>6</sub>=0". Sill displacement was 3.6" at C<sub>2</sub>, 9" at C<sub>3</sub>, and 8" at C<sub>4</sub>.</p>	<p>The left side of vehicle #2 sustained moderate overlapping damage from its impacts with the mailboxes and the air bag vehicle. Maximum crush was 11.25" located at the left front fender 7.5" forward of the axle position. The mailbox impacts were located on the left front fender 8.5" forward of the axle and 16" forward of the referenced axle position.</p> <p>The overlapping left side damage from the vehicle's impact with the Saab began 29.5" forward of the left rear axle and extended 111.5" forward to the left front corner.</p> <p>Crush values at mid-door level were as follows: C<sub>1</sub>=0", C<sub>2</sub>=3.9", C<sub>3</sub>=6.25", C<sub>4</sub>=5.5", C<sub>5</sub>=10.4", C<sub>6</sub>=5.9"</p> <p>As the vehicles crushed to maximum engagement, the left front corner area of the</p>

VEHICLE DAMAGE (CONT'D.)Air Bag Vehicle

Exterior  
(Cont'd.):

Damaged components included the left front fender, hood, left front and rear doors, left A-, B-, and C-pillar, and the sill. The left wheelbase was reduced by 3.2" while the right side was elongated by 1.2".

Secondary - As the vehicles rotated in their respective directions, the left front corner area of the Saab contacted the left rear quarter panel (rearward of the axle) of vehicle #2. Direct contact damage involved superficial abrasions of the bumper and paint transfers and deformation of the vehicle's hood. Maximum crush was 1.25" located on the hood face directly above the headlight assembly. Contact damage began 15.1" left of center and extended 12.4" to the left corner.

Vehicle #2

Cutlass contacted the side of the Saab resulting in 2.75" of bumper crush at the left corner. The bumper was also displaced 3" to the right.

The subsequent engagement that involved the front of the Saab and the left rear quarter panel of the Cutlass resulted in 1.25" of sheet-metal crush to the Cutlass.

Vehicle #2's fourth impact sequence with the utility pole resulted in 1.5" of bumper crush located 20" right of center.

CDC:

		<u>Object Struck</u>	<u>Event No.</u>	
Primary -	09-LYAW-3	Vehicle #2	2	09-LYEW-3
Secondary -	11-FLEN-1	Vehicle #2	3	10-LBEN-1
		Mail Boxes	1	09-LFEN-1
		Utility Pole	4	03-BZLS-1

Repair Cost: Total loss

Interior  
(Air Bag  
Vehicle):

The interior of the Saab 900S sustained moderate damage from both occupant loading and exterior deformation. The passenger compartment was reduced in size by intrusion of numerous components. Maximum intrusion involved 12" of displacement of the left sill and floorpan. The left rear door was displaced laterally approximately 12" reducing the left rear occupants' space. Additional intrusions involved lateral displacement of the left lower A-pillar (4.5"), left upper A-pillar (6"), and the left instrument panel (6"). Displacement of the left A-pillar buckled the knee bolster and displaced the steering column up and to the left approximately 1.5".



#### VEHICLE DAMAGE (CONT'D.)

Interior            The driver loaded the left front door panel and the padded  
(Air Bag            armrest. His loading force deformed the armrest to a depth  
Vehicle)            of 1.5"; however, no damage was noted to the panel itself.  
(Cont'd.):           The left rear passenger loaded the intruding left rear door panel  
                         and armrest. His hip/pelvic contact deformed the armrest and his  
                         upper torso scuffed the padded door panel.

Rescue personnel cut the upper pillars (A- and B-) and pulled the roof rearward to aid in the extrication of the occupants. They also cut the left front door hinges and removed the left front door and forced open the left rear door.

#### VEHICLE VELOCITY ESTIMATES

	<u>Air Bag Vehicle</u>	<u>Vehicle #2</u>
Travel Speed:	0.0 mph	Unknown
Impact Speed:	0.0 mph	Unknown
Total $\Delta V$ :	13.3 mph	12.8 mph
Longitudinal $\Delta V$ :	2.3 mph	2.2 mph
Lateral $\Delta V$ :	13.1 mph	12.6 mph

The velocity changes ( $\Delta V$ ) were computed by the damage algorithm of the CRASHPC program.

#### SUPPLEMENTAL RESTRAINT SYSTEM

The 1990 Saab 900S was equipped with the Supplemental Restraint System (SRS) that consisted of a driver air bag system and emergency tensioning retractors (ETRs) incorporated into the front seat active belt systems. The system was activated by the 9 o'clock direction of force impact to the left side area of the Saab. The shoulder belt webbings were cut by rescue personnel; therefore we were unable to determine if the ETRs remained locked post crash.

The driver air bag deployed and was not damaged by the accident events. The bag at maximum inflation measured 24" in diameter and maintained a depth of 11" due to internal tether straps. Four exhaust parts were located on the back side of the bag at the 4 and 8 o'clock and 10 and 2 o'clock positions. The left steering wheel spokes were covered with a grayish powder (generant residue) that exhausted from the ports.

The SRS crash sensors were located at the upper portion (slide nos. 38 and 39) of the front fenders between the wheel housing and headlight assemblies. There was no damage to the sensors or the associated wiring.

COLLISION SEQUENCE

## Pre-Crash:

The 1990 Saab 900S was being test driven by a potential buyer when the crash occurred. It was occupied by four occupants which included the salesman who was seated in the left rear position. A 17 year old male initially drove the vehicle to a parking area of a commercial development where he and the right front occupant exchanged positions. All four occupants fastened their respective 3-point lap and shoulder belt systems as the 44-year-old male driver backed the vehicle from the parked position and pulled forward toward the roadedge. He apparently stopped the vehicle prior to entering the roadway and checked the location of the controls (i.e., lights, wipers, etc.).

Vehicle #2, the 1978 Oldsmobile Cutlass, was traveling in a westerly direction on the city arterial at a driver estimated speed of 40-45 mph. As he approached a four-leg intersection, he noted the overhead signal phase had turned from green to red. The driver apparently braked which caused the vehicle to yaw in a clockwise (CW) direction on the wet road surface. A braking imbalance, in combination with a bald right rear tire, may have contributed to the loss of control. The vehicle continued to yaw CW as it departed the north (right) roadedge.

## Crash:

The Oldsmobile Cutless had rotated approximately 75° in a clockwise direction as it departed the right roadedge. The left front fender area of the vehicle impacted 3 mailboxes that were located on a grassy island approximately 2' outboard of the curblin. The 9 o'clock direction of force impacts resulted in minor vehicle damage. The vehicle displaced the units and overrode the posts as it continued to travel in a CW yaw orientation.

The left side of the Cutlass impacted the left side area of the air bag equipped Saab as it stopped facing in a southwesterly direction. Initial contact involved the left front corner area of vehicle #2 and the left B-pillar area of the Saab. Following the initial contact, vehicle #2 continued to rotate CW which allowed the left front fender and door area of the Cutlass to engage with the left front fender and doors of vehicle #1. Resultant directions of force were within the 9 o'clock sector for each vehicle. Velocity changes were computed at 13.3 mph for the Saab and 12.8 mph for vehicle #2 using the damage algorithm of the CRASHPC program. The longitudinal component of the Saab's speed change was only 2.3 mph; however, the impact induced a clockwise rotation to the vehicle which may have contributed to the deployment of the vehicle's driver air bag system.

COLLISION SEQUENCE  
(CONT'D.)

Crash  
 (Cont'd.):

The Cutlass continued to rotate in a clockwise direction as it began to separate from the Saab. The impact also displaced the Saab laterally to its right. The left front corner area of the Saab subsequently contacted the left rear quarter panel of the Cutlass resulting in minor damage to the vehicles. Resultant directions of force were 11 o'clock for the Saab and 10 o'clock for vehicle #2.

Following the subsequent engagement, the Saab was rotated CW and displaced to its right. The vehicle traveled approximately 30' from its at-impact position before coming to rest straddling a sidewalk. Vehicle #2 rotated rapidly in a CW direction as it separated from the air bag equipped Saab. As the vehicle neared 180° of CW rotation, the rear bumper endswiped a utility pole that was located 6' outboard of the curbline. The vehicle traveled approximately 10' past the pole impact before coming to rest perpendicular to the roadway.

Post-Crash:

Final Rest -

The Saab 900S came to rest on a sidewalk that paralleled the north roadedge. At rest the vehicle was facing in a southerly direction. The Oldsmobile probably came to rest perpendicular to the roadway facing in an easterly direction. It was suspected that the driver drove his vehicle across the roadway and parked it in a bank driveway. This was the position of the vehicle when the police arrived on-scene.

Driver  
 Activities -

Both drivers remained in their vehicles following the crash. They were removed by rescue personnel and transported to area hospitals.

Police  
 Activities -

The [REDACTED] was summoned to the accident scene. Once the first arriving officer determined the severity of the crash, he called for the accident investigation unit. Following the on-scene investigation, the driver of vehicle #2 was issued numerous summonses for traffic and nontraffic violations.

Rescue  
 Activities -

Both drivers and the left rear occupant of the Saab were removed from their respective vehicles by rescue personnel. Emergency equipment was utilized to remove the left front door and roof of the Saab to aid in the extrication process.

Scene  
 Clearance -

Following the on-scene investigation, both vehicles were towed to police headquarters and impounded for safety inspections.

HUMAN FACTORS/OCCUPANT DATA

	<u>Air Bag Vehicle</u>
Driver:	44 year old male
Height:	72"
Weight:	195 lbs.
Active Restraint System Usage:	3-point lap and shoulder belt system
Usage Source:	Police, vehicle inspection
Vehicle Familiarity:	Test driving vehicle
Route Familiarity:	Unknown
Trip Plan:	Test driving vehicle
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Admitted to a local hospital for treatment of his injuries
Hospital Stay:	31 days

DRIVER INJURIES

<u>Injury</u>	<u>Severity</u>	<u>Source</u>
Left rib fractures 3-7 with bilateral pneumothorax	Severe (CLFS-4)	Left door panel
Fractured/ruptured spleen	Serious (MRLQ-3)	Left door armrest/door
5 cm laceration of the left diaphragm	Serious (MSLR-3)	Left door armrest/door panel
Fracture of the spinous process of L-2	Moderate (BIFS-2)	Induced fracture from the displacement of the 7th rib
Contusion of the lateral aspect of the left mid-chest area	Minor (CLCI-1)	Left door panel

## DRIVER KINEMATICS

The driver of the Saab was probably in a normal seated position at impact. He was wearing the active 3-point lap and shoulder belt system. Belt usage was determined from cuts on the webbing from rescue personnel and statements from the first police officer who arrived on-scene. The driver moved laterally to his left and slightly forward at impact as he responded to the 9 o'clock impact force. He probably had minimal contact with the deployed air bag; however, the air bag was not beneficial in reducing his injury severity. The left side of the driver's chest and abdomen loaded the intruding left door panel and armrest respectively. As a result of his door contact, the driver sustained left rib fractures 3-7 with bilateral pneumothorax, a fractured/ruptured spleen, a 5 cm laceration of the left diaphragm, and a contusion of the lateral aspect of the left mid chest wall. The displacement of the 7th rib probably fractured the spinous process of the L-2 vertebrae.

The driver probably rebounded slightly before coming to rest in his seated position. He was removed from the vehicle by rescue personnel and transported to a [REDACTED] hospital where he was admitted for treatment (31 days) of his injuries.

## PASSENGER DATA

Right Front Passenger:	17 year old male
Height:	70"
Weight:	165 lbs.
Active Restraint Usage:	3-point lap and shoulder belt
Usage Source:	Interview data, police report
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Treated at a [REDACTED] hospital and released

## RIGHT FRONT PASSENGER INJURIES

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Left knee contusion	Minor (KLCI-1)	Lower instrument panel/ console
Soreness, whole body	N/A (0000-0)	Restraint usage/ impact force

#### RIGHT FRONT PASSENGER KINEMATICS

The right front occupant of the Saab was in a normal seated position at impact. He was restrained by the active 3-point lap and shoulder belt system. At impact he moved laterally to his right and slightly forward, loading the active belt webbing. His left knee probably contacted the lower instrument panel and the center console area resulting in a minor contusion of the knee. He also complained of whole body soreness from loading the active belt webbing and the impact force.

#### PASSENGER DATA

Left Rear Occupant:	39 year old male
Height:	69"
Weight:	158 lbs.
Active Restraint Usage:	3-point lap and shoulder belt
Usage Source:	Police report, rescue personnel
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Transported to a [REDACTED] hospital where he was admitted for treatment of his injuries

#### LEFT REAR OCCUPANT INJURIES

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Fracture of the left ilium	Moderate (PLFS-2)	Left rear door armrest/ intruding door panel
Deep left lateral thigh contusion	Minor (TLCI-1)	Left rear door armrest/ intruding door panel
Fractured left 3rd rib	Minor (CLFS-1)	Intruding left door panel
Fractured right front tooth (#8)	Minor (FIFS-1)	Self-inflicted

#### LEFT REAR OCCUPANT KINEMATICS

The left rear occupant was in a normal seated position and was wearing the active 3-point lap and shoulder belt at impact. He was struck on his left side by the intruding left door panel and armrest as he initiated a lateral trajectory to his left. As a result of the contact sequence, the left rear occupant sustained a deep contusion of the left lateral thigh, a fracture of the left ilium (pelvic), and a left 3rd rib fracture. He also sustained a fractured tooth (#8) that was probably self-inflicted from the impact force. The occupant did not sustain head or facial contact.

#### PASSENGER DATA

Right Rear Occupant: 39 year old female  
Height: 65"  
Weight: 145 lbs.  
Active Restraint Usage: 3-point lap and shoulder belt system  
Usage Source: Interview data, police report  
Manner of Leaving Scene: Ambulance  
Type of Medical Treatment: Treated at a [REDACTED] hospital and released

#### RIGHT REAR OCCUPANT INJURIES

<u>Injury</u>	<u>Severity (OIC/AIS)</u>	<u>Source</u>
Multiple contusions	Minor (OWCI-1)	Restraint system, front seat backs, left rear occupant (probable)

#### RIGHT REAR OCCUPANT KINEMATICS

The fully restrained right rear occupant was in a normal seated position at impact. She responded to the 9 o'clock impact force by moving laterally to her left and slightly forward. The occupant probably contacted the front seatbacks, the belt webbing, and the left rear occupant. Although no definite points of contact were found within the vehicle, the occupant did sustain multiple (whole body) contusions from the suspected contact points.

VEHICLE #2

Driver:	17 year old male
Height:	Unknown
Weight:	Unknown
Active Restraint Usage:	None
Usage Source:	Police report, vehicle inspection
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Admitted to a [REDACTED] hospital for treatment of his injuries
Right Front Passenger:	16 year old male
Height:	Unknown
Weight:	Unknown
Active Restraint Usage:	None
Usage Source:	Vehicle inspection
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Treated at a [REDACTED] hospital and released





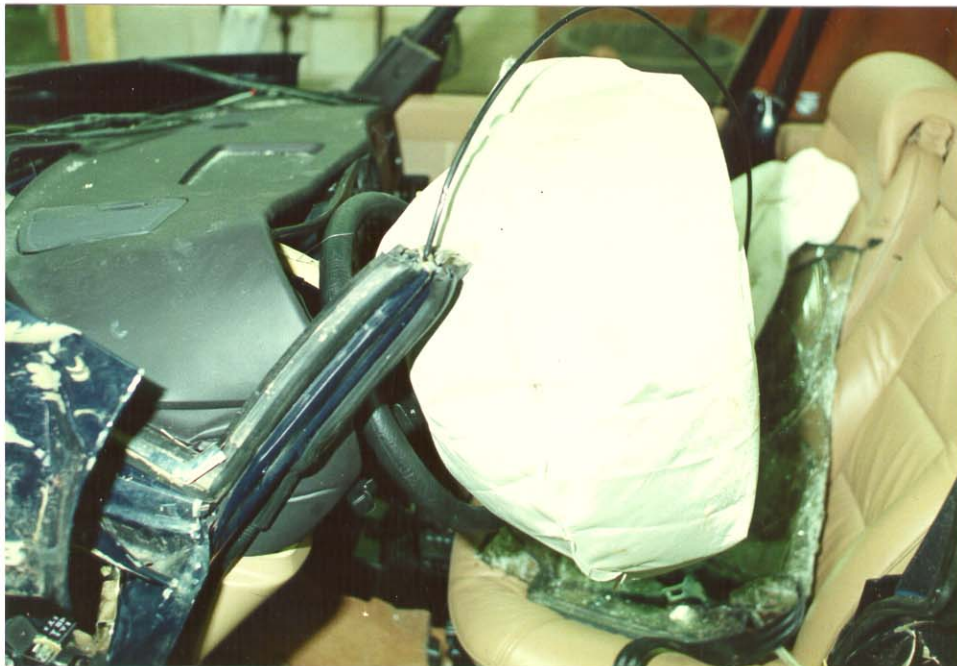
Left Side Damage To The 1990 Saab 900S.



Longitudinal View Of The Damage Showing The Extent Of Crush.



Left Rear Three-Quarter View Of The Saab.



Perpendicular View Of The Driver's Seated Position  
And The Deployed Air Bag.





Inflated Driver Air Bag.



View Of The Driver's Position From The Right Door Area.



Air Bag Generant Residue On The Steering Wheel Rim  
At The Lower Spoke Positions.



Left Rear Occupants' Seated Position.





Left Side View Of The Oldsmobile Cutlass.



Mailbox Impacts To The Left Front Fender Area.



Longitudinal View Showing The Extent Of Crush.



Left Rear Three-Quarter View.

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34	Left front door removed by [REDACTED]
35,36	Right side views

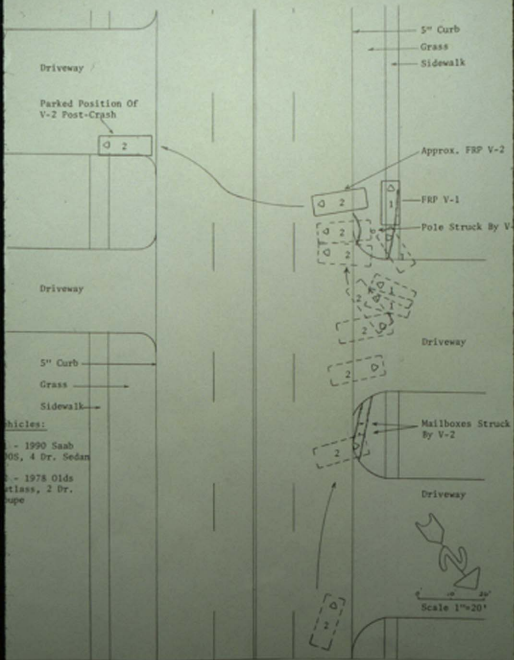
SLIDE INDEX  
(CONT'D.)

<u>Slide No.</u>	<u>Description</u>
37	Right front three-quarter view
38	Left front air bag crash sensor
39	Right front air bag crash sensor
40,41	Compressed knee bolster from A-pillar intrusion
42	Perpendicular view of the steering assembly
43	Air bag generant residue on the steering wheel and spoke
44,45	Left front door panel
46	View across the interior from right to left
47	View across the rear seat area
48,49	Left rear occupants' space
50	Frontal views of vehicle #2
51,52	Longitudinal views showing bumper shift and left side crush
53	Close-up view of the bumper contact
54	Bumper crush
55	Left side views
56-59	Mailbox impacts to left front fender
60	Damage to left door area
61,62	Subsequent impact damage to the left rear quarter panel
63	Left rear three-quarter view
64-66	Pole impact damage to the rear bumper
67	Right rear three-quarter view
68	Right front three-quarter view



Accident Schematic

FRC Case No. 90-1



AGE 44  
SEX MALE  
WT. 195 lbs.  
HT. 72"

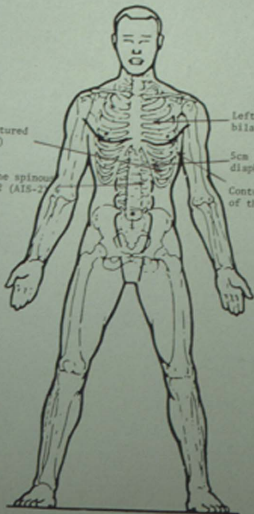
Fractured/ruptured  
spleen (AIS-3)

Fracture of the spinous  
process of L-2 (AIS-2)

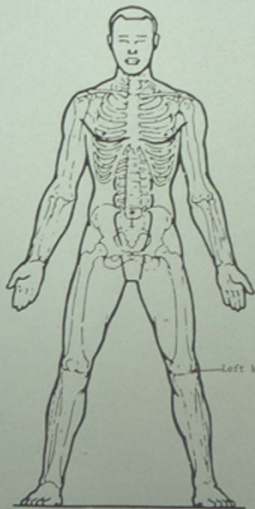
Left rib fractures 3-7 with  
bilateral pneumothorax (AIS-4)

5cm laceration of the left  
diaphragm (AIS-3)

Contusion of the lateral aspect  
of the mid chest area (AIS-1)

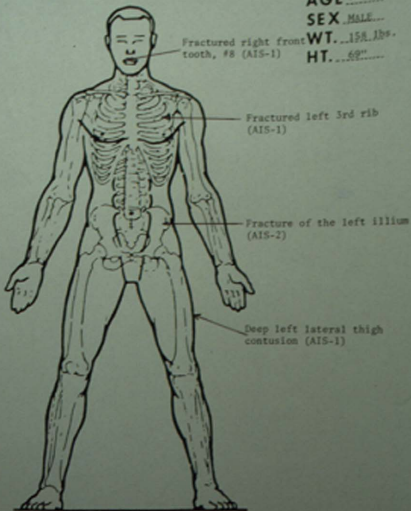


AGE 17  
SEX MALE  
WT. 165 lbs.  
HT. 70"

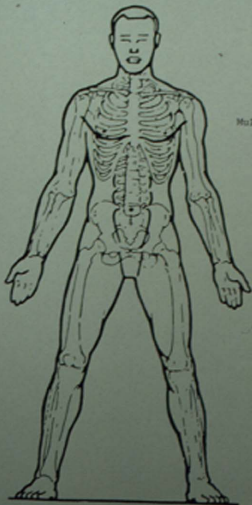


Left knee contusion (AIS-1)

AGE 39  
SEX MALE  
WT. 158 lbs.  
HT. 6'2"



AGE 39  
SEX FEMALE  
WT. 145 lbs.  
HT. 65"



Multiple contusions (AIS-1)







































































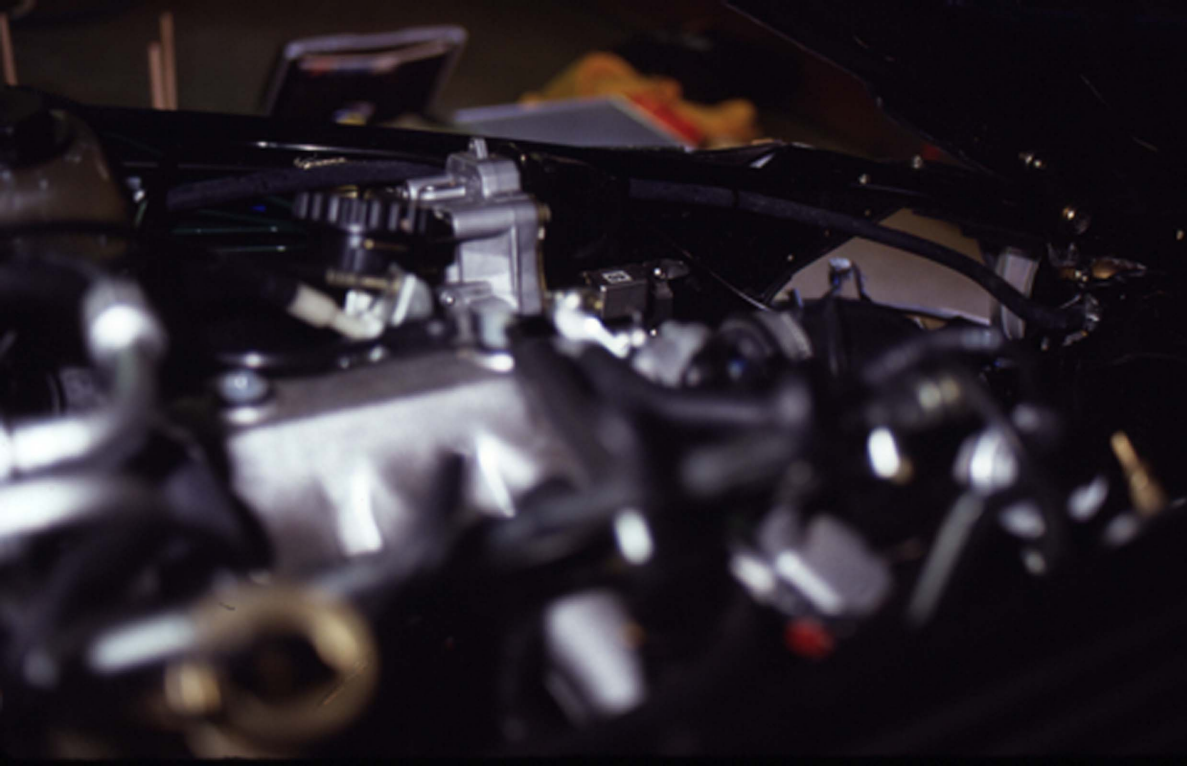


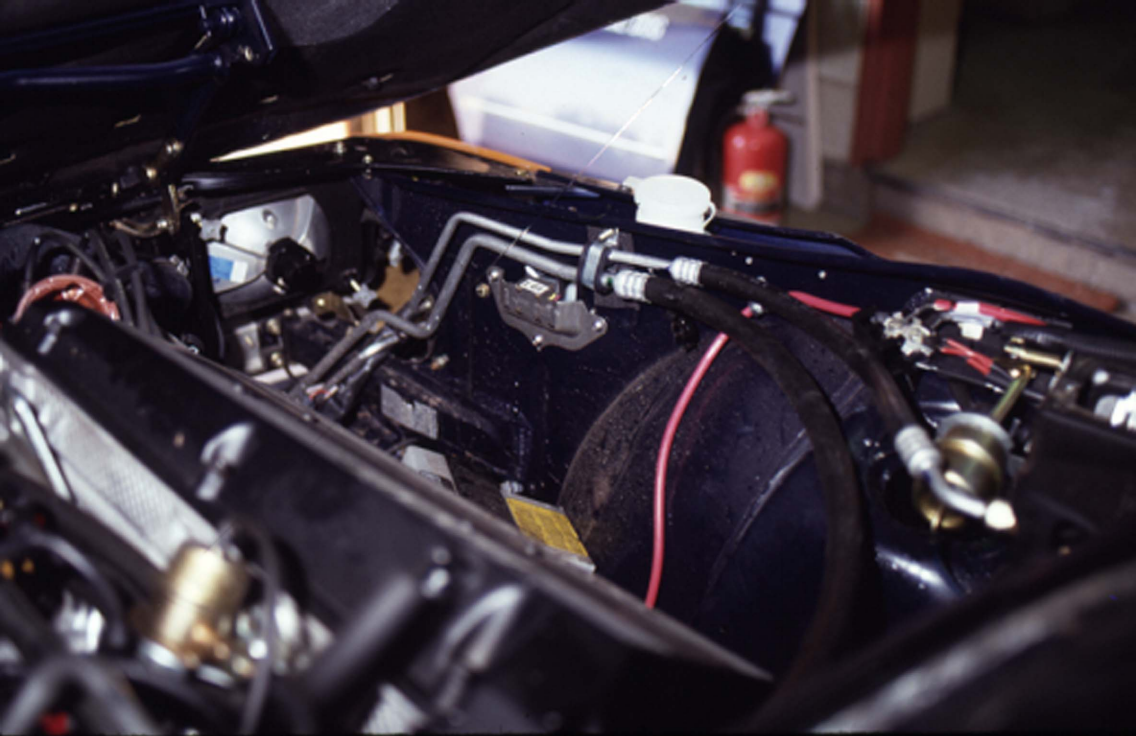




















































































APPENDIX A

Police Accident Report



## POLICE ACCIDENT REPORT

PR-1 Rev. 6-85

BVD  
USE  
ONLY

CHECKED BY

LOW LETTER

Please send to

STATE OF CONNECTICUT  
DEPARTMENT OF MOTOR VEHICLES

Connecticut

1-6 MVL CASE NUMBER

DOT  
ONLY  
13

1914

1917

6

7

2

5

15

1

-

-

-

C2

01

LOCATION

12 DATE OF ACCIDENT (month, day, year) 9 0	DAY OF WEEK 1 9 1 4	13-16 TIME (military) 0 5	# KILLED 2	# INJURED 2	# OF VEHICLES INVOLVED 2	POLICE CASE NUMBER 1917
17-19 CITY OR TOWN (name) (City, Town, Code) ACCIDENT OCCURRED ON (street name or route #) AT ITS INTERSECTION WITH (street name or route #) Road						
NOT AT INTERSECTION 1. Give distance and ✓ either "Feet" or "Tenths" of a mile. Approx. <input checked="" type="checkbox"/> Feet 375 <input type="checkbox"/> Tenths						
2. Check (✓) direction. North <input type="checkbox"/> S <input type="checkbox"/> E <input checked="" type="checkbox"/> W of						
3. Give nearest intersecting street (name or route #) underpass, overpass, bridge, river or town line. DO NOT USE house #, utility pole #, or business name.						

## OPERATOR AND VEHICLE #1

OPERATOR #1 NAME (last, first, middle initial) [REDACTED]			
ADDRESS (street number and name) [REDACTED]			
CITY OR TOWN [REDACTED]	STATE [REDACTED]	ZIP CODE [REDACTED]	SEX M
Lic State Code [REDACTED]	24-48 OPERATOR LICENSE NUMBER [REDACTED]	49-54 DATE OF BIRTH 7 2	DOT ONLY 11
VEHICLE #1 OWNER NAME (if same as operator #1, enter "same") [REDACTED]			
ADDRESS (street number and name) [REDACTED]			
CITY OR TOWN [REDACTED]	STATE [REDACTED]	ZIP CODE [REDACTED]	
34-41 PLATE # AND STATE CODE [REDACTED]	VEHICLE YEAR AND MAKE 1978 Oldsmobile		
VEHICLE MODEL NAME Outlass	BODY TYPE (e.g. 4-door sedan, truck, etc.) 2 door sedan (blue)		
42-47 VEHICLE IDENTIFICATION NUMBER (not engine number) 3K47F8G	DOT ONLY 12		
Do operator carry a current Connecticut No-Fault Insurance LD Card in vehicle as required under CGS Section 14-12c? <input type="checkbox"/> YES <input type="checkbox"/> NO			
NAME OF AUTOMOBILE INSURANCE CO. [REDACTED]		AUTOMOBILE INSURANCE POLICY NO. [REDACTED]	

## OPERATOR AND VEHICLE #2 (if pedestrian)

OPERATOR #2 OR PEDESTRIAN NAME (last, first, middle initial) [REDACTED]			
ADDRESS (street number and name) [REDACTED]			
CITY OR TOWN [REDACTED]	STATE [REDACTED]	ZIP CODE [REDACTED]	SEX M
Lic State Code [REDACTED]	1-33 OPERATOR LICENSE NUMBER [REDACTED]	34-39 DATE OF BIRTH [REDACTED]	
VEHICLE #2 OWNER NAME (if same as operator #2, enter "same") [REDACTED]			
ADDRESS (street number and name) [REDACTED]			
CITY OR TOWN [REDACTED]	STATE [REDACTED]	ZIP CODE [REDACTED]	
42-43 PLATE # AND STATE CODE [REDACTED]	VEHICLE YEAR AND MAKE 1990 Saab		
VEHICLE MODEL NAME 914A	BODY TYPE (e.g. 4-door sedan, truck, etc.) 4 door sedan (blue)		
44-49 VEHICLE IDENTIFICATION NUMBER (not engine number) 3Y3AK46D21	DOT ONLY 13		
Do operator carry a current Connecticut No-Fault Insurance LD Card in vehicle as required under CGS Section 14-12c? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
NAME OF AUTOMOBILE INSURANCE CO. [REDACTED]		AUTOMOBILE INSURANCE POLICY NO. [REDACTED]	

PARTS OF VEHICLE DAMAGED (i.e. left front fender, etc.) windshield, roof, hood, grill, left front fender, drivers door left, &amp; Right front fenders, hood, roof.

VEHICLE TOWED TO (if not towed, indicate "none")

VEHICLE TOWED TO (if not towed, indicate "none")

PROPERTY

1. Describe the property and extent of damage (e.g. 50 feet of fence knocked down).
3 Mail boxes and posts
2. Give name and address of property owner.
[REDACTED]

WITNESSES

AGE 17	SEX M	NAME AND ADDRESS OF WITNESS [REDACTED]
AGE 17	SEX M	NAME AND ADDRESS OF WITNESS [REDACTED]

ALL INVOLVED PERSONS

	J	I	K	L	M	N	O	P	Q	
1	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	
1	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	1
2	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	2
3	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	3
4	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	4
5	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	5
6	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	6
7	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	7
8	21-26	27-32	33-38	39-44	45-50	51-56	57-62	63-68	69-74	8

Diagram to Follow

SECTION OF TRAVEL OF EACH VEHICLE. PER [REDACTED] ETC

N S E W

facing.

5

**F**

10

1

10

五

Vě

22

1

1

1

1

100

1

1

VEHICLE #1 going [ ] [ ] [ ] on [REDACTED] HC.

VEHICLE #2 going ☐ ☒ ☐ ☐ on [REDACTED] Rd.

PLEASE GIVE A COMPLETE DESCRIPTION OF WHAT HAPPENED. Be sure to explain why you gave the response marked with an asterisk.

A preliminary investigation reveals that Vehicle #1 was being operated in the right lane westbound on the [REDACTED] Rd. approaching [REDACTED] Id. Operator #1 stated that he saw the traffic light at [REDACTED] Rd. in the process of turning red. He said that he must have applied his brakes too hard as the vehicle began to spin on the wet roadway causing him to lose control. Vehicle #1 rotated clockwise and proceeded off the right side of the road striking 3 mailboxes and posts with the left front fender in front of [REDACTED] Rd. prior to striking Vehicle #2 which was stationary facing southbound in the driveway of [REDACTED] Rd. The driver rear of Vehicle #1 was [REDACTED] Operator #2 and [REDACTED] who was seated in the left rear of Vehicle #2 were both transported to [REDACTED] in critical condition. [REDACTED] and [REDACTED] were also transported to [REDACTED] where they were treated and released with minor injuries. Operator #1 was transported to [REDACTED] where he was admitted for injuries sustained in the accident. Investigation to continue and further supplementary reports will be forthcoming.

WERE MEASUREMENTS TAKEN? ☒ YES ☐ NO

WERE MEASUREMENTS TAKEN ☐ DURING ☐

On: Road #	RL	D	INIR	Flame	TR #	D	S	Cum Mth	IRC	Ty	I	SF	Local Road	Location																				
22	25	26	12	26	30	31	34	35	36	37	38	39	44	45	47	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65

DTG	TO	DATE	TIME	TALEPH DESCRIPTION
06	07	64	06	
			14	5

[illegible]

NAME OF PERSON ACTION WAS TAKEN AGAINST	TYPE OF ENFORCEMENT ACTION (- one -)	COURT DATE AND TOWN CODE
	<input type="checkbox"/> Arrest <input type="checkbox"/> Written Warning <input type="checkbox"/> None <input type="checkbox"/> Other	

CHARGE	<input type="checkbox"/> Arrested <input type="checkbox"/> Warning <input type="checkbox"/> None <input type="checkbox"/> Other	STATUTE OR ORDINANCE NUMBER	UNIFORM SUMMONS COMPLAINT NUMBER
--------	---------------------------------------------------------------------------------------------------------------------------------	-----------------------------	----------------------------------

NAME OF PERSON ACTION WAS TAKEN AGAINST	TYPE OF ENFORCEMENT ACTION (✓ one)	COURT DATE AND JUDICIAL CODE
	<input type="checkbox"/> Arrest <input type="checkbox"/> Written <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

CHARGE	<input type="checkbox"/> Arrest <input type="checkbox"/> Warning <input type="checkbox"/> None <input type="checkbox"/> Other	STATUTE OR ORDINANCE NUMBER	UNIFORM 5 JIMMONS COMPLAINT NUMBER
--------	-------------------------------------------------------------------------------------------------------------------------------	-----------------------------	------------------------------------

RANK AND SIGNATURE OF INVESTIGATING OFFICER [Redacted Signature]	BADGE NUMBER [Redacted]	DEPARTMENT NAME [Redacted]	REPORT DATE [Redacted]	CASE STATUS Open Closed [Redacted]	SUPERVISOR [Redacted]
---------------------------------------------------------------------	----------------------------	-------------------------------	---------------------------	------------------------------------------	--------------------------

Rev. 6-85 (BACK)

# **POLICE ACCIDENT REPORT**

## **INSTRUCTIONS**

**A**  
TIME EMERGENCY  
MEDICAL SERVICE  
NOTIFIED (military)

**B**  
TIME EMERGENCY  
MEDICAL SERVICE  
ARRIVED (military)

DO NOT  
ONLY  
3

PR Rev 6-85

1. Please print or type all responses.
2. Enter code number of correct response in box indicated by arrow (→ or ↓).
3. If correct response is UNKNOWN, enter an X
4. If question does not apply, enter a dash (-). DO NOT leave blank.
5. Please explain any response marked with an asterisk (\*), in NARRATIVE SECTION

### **C. TYPE OF EMERGENCY MEDICAL SERVICE (ambulance, etc.—enter one item)**

- |                          |                           |                      |            |
|--------------------------|---------------------------|----------------------|------------|
| 1. None                  | 3. Municipal or Volunteer | 5. State or Federal  | 9. Other * |
| 2. Commercial or Private | 4. Hospital based         | 6. Two or more types |            |

### **D. WEATHER CONDITIONS (enter one item)**

- |            |                 |                           |           |            |
|------------|-----------------|---------------------------|-----------|------------|
| 1. Clear   | 3. Fog          | 5. Snowing                | 7. Cloudy | 9. Other * |
| 2. Raining | 4. Rain and Fog | 6. Sleet or Freezing Rain | 8. Hail   |            |

### **E. ROAD SURFACE CONDITIONS (enter one item)**

- |        |          |           |                  |            |
|--------|----------|-----------|------------------|------------|
| 1. Dry | 3. Icy   | 5. Slushy | 7. Freshly oiled | 9. Other * |
| 2. Wet | 4. Snowy | 6. Muddy  | 8. Loose sand    |            |

### **F. LIGHT CONDITIONS (enter one item)**

- |             |                                      |                                       |
|-------------|--------------------------------------|---------------------------------------|
| 1. Daylight | 3. Dusk                              | 5. Darkness with highway illumination |
| 2. Dawn     | 4. Darkness, no highway illumination |                                       |

### **G. CONTRIBUTING FACTORS (enter only those which apply; either none (enter a dash (-)), one, or two items for each vehicle)**

- |                                        |                                 |                                                                                   |                   |
|----------------------------------------|---------------------------------|-----------------------------------------------------------------------------------|-------------------|
| <b>DRIVER</b>                          | <b>DRIVER (continued)</b>       | <b>ROADWAY</b>                                                                    | <b>Vehicle #1</b> |
| 01. Speeding                           | 12. Sick                        | 20. Defective roadway surface (i.e. potholes, etc.)                               |                   |
| 02. Failed to yield right-of-way       | 13. Alcohol involved            | 21. Slippery roadway surface                                                      |                   |
| 03. Improper passing                   | 14. Inattentive                 | 22. Traffic control signal inoperative                                            | <b>Vehicle #1</b> |
| 04. Failed to obey traffic control     | 15. Lost control of vehicle *   | 23. View obstructed by object (i.e. tree, fence, shrubbery, parked vehicle, etc.) |                   |
| 05. Followed too closely               | <b>DEFECTIVE EQUIPMENT</b>      | 24. Roadway restricted (i.e. construction, snowbank, etc.)                        | <b>Vehicle #2</b> |
| 06. Made improper turn                 | 16. Brakes                      | <b>MISCELLANEOUS</b>                                                              |                   |
| 07. Made improper lane change          | 17. Tire(s)                     | 25. Pedestrian under the influence of alcohol                                     | <b>Vehicle #2</b> |
| 08. Drove left of center               | 18. Steering or wheel(s)        | 26. Pedestrian inattentive                                                        |                   |
| 09. Drove wrong way on one-way street  | 19. Other defective equipment * | 27. Animal or foreign object in roadway                                           |                   |
| 10. Drove wrong way on divided highway |                                 | 28. Blinded by sun or bad weather                                                 |                   |
| 11. Fatigued or asleep                 |                                 | 99. Other *                                                                       |                   |

### **H. VEHICLE TYPE (enter one item for each vehicle)**

- |                                          |                                            |                                        |                   |
|------------------------------------------|--------------------------------------------|----------------------------------------|-------------------|
| 01. Passenger Car                        | 07. Truck or Van—dual tires                | 13. Farm equipment                     | 99. Other *       |
| 02. Motorcycle                           | 08. Truck or Van—single tire               | 14. Train                              |                   |
| 03. Pedalcycle (bicycle, tricycle, etc.) | 09. Car-trailer combination                | 15. Moped (tricycle with helper motor) | <b>Vehicle #1</b> |
| 04. Camper                               | 10. Truck-trailer combination              | 16. Motor Scooter or Mini-bike         |                   |
| 05. Commercial Bus                       | 11. Emergency vehicle (police, fire, etc.) | 17. Snowmobile or Go-cart              | <b>Vehicle #2</b> |
| 06. School Bus                           | 12. Taxi                                   | 18. Tractor trailer combination        |                   |
|                                          |                                            | 19. Tandem trailer                     |                   |

### **I. INJURY CODE**

- ✓ Killed.  
Disabling—cannot leave scene without assistance (i.e., broken bones, severe cuts, prolonged unconsciousness, etc.).
- B. Not disabling, but visible (i.e., minor cuts, swelling, etc.).
- C. Probable but not visible (i.e., complaint of pain, etc.).
- No injury.

### **O. SAFETY EQUIPMENT USED**

- |                          |                                                                            |
|--------------------------|----------------------------------------------------------------------------|
| 1. Lap belt only         | 7. Child seat                                                              |
| 2. Lap and shoulder belt | 8. Helmet (motorcyclist)                                                   |
| 3. Passive belt          | 9. Light-reflecting or light-colored clothing (pedestrian or pedalcyclist) |
| 4. Airbag deployed       |                                                                            |
| 5. Airbag failed         | 0 None                                                                     |
| 6. Child harness         |                                                                            |

### **P. EJECTED FROM VEHICLE**

1. Completely
2. Partially
3. Not ejected

### **J. VEHICLE NUMBER**

1. Veh. #1  
2. Veh. #2  
etc.

### **K. INDIVIDUAL POSITION CODE**

- |                  |                 |                 |                                    |                |
|------------------|-----------------|-----------------|------------------------------------|----------------|
| 01. Operator     | 03. Front-right | 05. Rear-center | 07. Rear of station wagon or truck | 09. Pedestrian |
| 02. Front-center | 04. Rear-left   | 06. Rear-right  | 08. Motorcycle passenger           | 99. Other *    |

N. SEX  
M. Male  
F. Female

M. AGE  
↓

### **Q. HOSPITAL CODE (see back of this sheet)**

### **L. NAME AND ADDRESS OF EACH INVOLVED PERSON (for "operator #1", "operator #2", etc.)**

	J			K	L NAME AND ADDRESS (or operator #1, operator #2, etc.)	M	N	O	P	Q
	21	22	23-26							
1					OPERATOR #1			29	30	1
2					OPERATOR #2 OR PEDESTRIAN (circle the one which applies)			35	36	2
3									42	3
4									48	4
5									54	5
6									60	6
7									66	7
8									72	8

APPENDIX B

CRASHPC Output  
(Damage Algorithm)

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

## CRASH RECONSTRUCTION

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL (MPH)	LONG. (MPH)	LAT. (MPH)	ANG. (DEG)
	VEH #1	13.3	2.3	12.1	-100.0
	VEH #2	12.8	2.2	12.6	-100.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 32935.0 FT-LB VEH#2: 19680.4 FT-LB

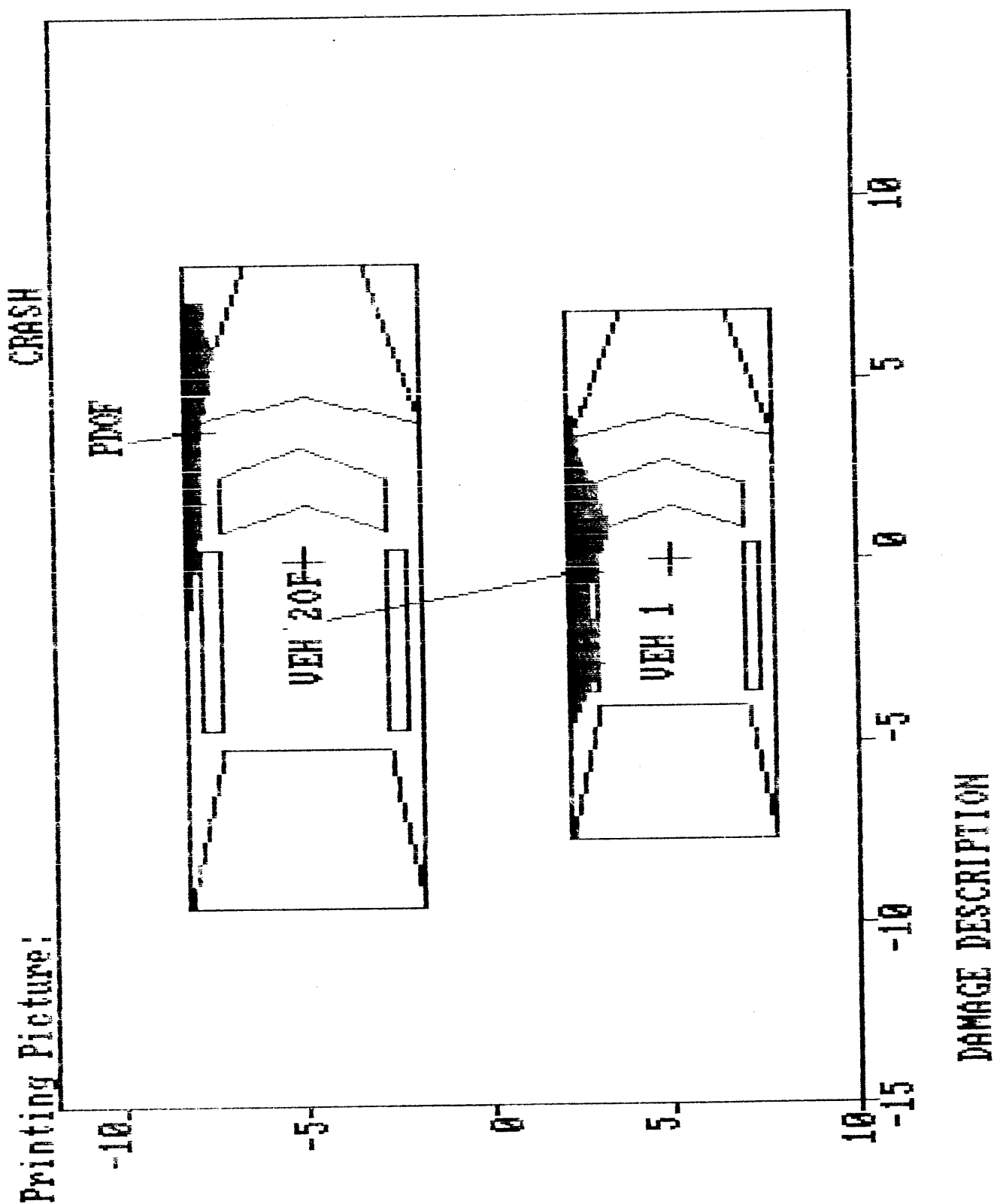
SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS----CATEGORY 2  
 WEIGHT-----3461.0 LBS.  
 CDC-----02LYAV3  
 L-----111.3 IN.  
 C1-----0.0 IN.  
 C2-----11.5 IN.  
 C3-----6.0 IN.  
 C4-----14.3 IN.  
 C5-----5.0 IN.  
 C6-----0.0 IN.  
 D-----0.4  
 RHO-----1.00 \*  
 ANG-----100.0 DEG.  
 D'-----2.2 IN.

TYPE-----CATEGORY 4  
 STIFFNESS----CATEGORY 4  
 WEIGHT-----3607.0 LBS.  
 CDC-----09LYEW3  
 L-----112.5 IN.  
 C1-----0.0 IN.  
 C2-----3.9 IN.  
 C3-----6.3 IN.  
 C4-----5.5 IN.  
 C5-----10.4 IN.  
 C6-----5.9 IN.  
 D-----30.8  
 RHO-----1.00 \*  
 ANG-----100.0 DEG.  
 D'-----43.0 IN.

## DIMENSIONS AND INERTIAL PROPERTIES

A1	=	46.3	IN.	A2	=	54.7	IN.
B1	=	50.1	IN.	B2	=	59.2	IN.
TR1	=	54.6	IN.	TR2	=	61.8	IN.
I1	=	26555.9	LB-SEC**2-IN	I2	=	35085.3	LB-SEC**2-IN
M1	=	9.999	LB-SEC**2/IN	M2	=	9.379	LB-SEC**2/IN
XF1	=	83.3	IN.	XF2	=	98.8	IN.
XR1	=	-31.8	IN.	XR2	=	-114.0	IN.
YB1	=	33.6	IN.	YS2	=	38.5	IN.





APPENDIX C

Air Bag Supplement

ACCIDENT SUMMARY

ACCIDENT DATE                      / 90

POLICE INVESTIGATED (1,2,9)\*

City                      County                     

GENERAL LOCALITY

- (1) Freeway, Limited Access
- (2) Urban (City)
- (3) Urban-Rural (mixed)
- (4) Rural, Fields

CONFIGURATION (First Harm)

- (0) Struck Object or Pedestrian
- (1) Rear-End
- (2) Head-On
- (3) Rear-to-Rear *side-to-side*
- (4) Angle
- (5) Sideswipe-Same Direction
- (6) Sideswipe-Opposite Direct.
- (7) NonColl:eg Fell from Veh
- (8) NonImpact Deployment
- (9) Unknown

FIRE INVOLVED (0) None

- (1) AirBag Vehicle
- (2) Other Vehicle
- (3) Both Vehicles
- (9) Unknown

NUMBER: VEHICLES INVOLVED

(8)=8 or more

PERSONS INVOLVED

INJURED PERSONS

MAXIMUM AIS IN ACCIDENT

OTHER VEHICLE: MAXIMUM AIS

PRIME/DEPLOY IMPACT w AB VEH:  
EVENT NUMBER

CDC Q9-LYAW-3

TOTAL DELTA-V 12.8

Model Year, Make, Model, Body Type:

1978 OLDSMOBILE CUTLASS

AIRBAG VEHICLE INSPECTION

DATE VEH. INSPECTED                      / 90

REASON VEHICLE NOT INSPECTED

- (0) Not Required
- (1) Inspection Completed
- (2) Cannot be Located\*\*
- (3) Repaired or Destroyed\*\*
- (5) Refual or Impounded\*\*
- (7) Other\*

\*\*Specify:                                     

IMPACT DATA OBTAINED

- (0) No Data Obtained
- (1) CDC Only
- (2) Crush Profile Only
- (3) Trajectory Data Only
- (4) CDC and Crush Profile
- (5) CDC and Trajectory
- (6) Crush and Trajectory
- (7) CDC, Crush & Trajectory

BASIS OF DELTA-V

- (0) Not Computed (Unknown Why)
- (1) CRASH - Damage Only
- (2) CRASH - Damage+Trajectory
- (3) Missing Vehicle Algorithm
- (4) Yielding Object Algorithm
- (5) Unknown Basis
- (6) One Vehicle Beyond Scope
- (7) Collision Beyond Scope
- (8) Insufficient Data

VEHICLE HISTORY

HAS AIRBAG VEHICLE BEEN IN  
ANY PRIOR IMPACTS (1,2,9)\*

HAS ANY PRIOR MAINTENANCE/SERVICE  
BEEN PERFORMED ON SYSTEM(1,2,9)\*

\*Describe: NONE

AIRBAG VEHICLE: FLEET SAAB

VIN                                     

MILEAGE 2556

SYSTEM READINESS LAMP  
(In Instrument Cluster)

PRE-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

DRIVER'S REPORT OF  
PRE-IMPACT FLASHING

- (00) No Flashing Reported
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not App (system removed)
- (99) Unknown

PERIOD OF PRE-IMPACT FLASHING

- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown

POST-IMPACT LAMP CONDITION

- (1) Functioning/ProvedOut
- (2) Inoperative
- (9) Unknown

POST-IMPACT FLASHING

- (00) No Flashing
- (01) Continuous Flashing
- (02) -- >Number of Flashes
- (11)
- (12) Constant Light
- (19) Flashing, Unkn Number
- (88) Not Appl (removed)
- (99) Unknown *inoperative*

AIRBAG VEHICLE  
FIRST HARMFUL EVENT

13

- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife with intraunit damage  
Collision With:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder  
Collision with Fixed Object:
- (20) Building
- (21) Impact attenuator/Crash Cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/Traffic sign post
- (30) Overhead sign support
- (31) Luminaire/Light support
- (32) Utility pole
- (33) Other post, pole, or support (specify):
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone or concrete
- (39) Fence (wooden, wire, chain link, etc.)
- (40) Wall (stone, rock, metal, etc.)
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify):
- (45) Pavement surface irregularity (pothole, grooved, grates)
- (99) Unknown

1

00

0

2

99

AIRBAG VEHICLE IMPACT SUMMARY

VEHICLE ROLE

- ( ) Non-collision  
( ) Striking Unit  
(2) Struck Unit  
(3) Both Striking and Struck  
( ) Unknown

MANNER OF LEAVING SCENE

- ( ) Driven  
(2) Towed-due to damage  
( ) Towed - not for damage  
( ) Towed - details unknown  
(5) Abandoned  
(9) Unknown

NUMBER OF IMPACT EVENTS

- (8) 8 or more, (9) Unknown

ROLLOVER

- (0) No Rollover  
(1) First Event  
(2) Subsequent Event  
(3) Yes, Unknown Event  
(9) Unknown

OVERRIDE/UNDERRIDE

- (1) No over/underride  
( ) Override - 1st CDC  
( ) - Other CDC  
(4) Underride - 1st CDC  
( ) - Other CDC  
( ) Unknown

AIRBAG VEHICLE DAMAGE

- CODES: (1) Yes, DAMAGED  
(2) No Damage  
(9) Unknown

LEFT FRONT FENDER DAMAGE

RIGHT FRONT FENDER DAMAGE

CENTER TOP OF GRILLE DAMAGE

FRONT BUMPER E.A. STATUS: Left

- ( ) Normal Right  
(2) Extended  
( ) Partial Compression  
( ) Complete Compression  
(5) Not Applicable  
(9) Unknown

FIRST AIRBAG VEHICLE IMPACT:

CONFIGURATION

- (0) Struck Object or Pedestrian  
(1) Rear-End  
(2) Head-On  
(3) Rear-to-Rear  
(4) Angle *side-to-side*  
(5) Sideswipe - Same Direction  
(6) Sideswipe-Opposite Direct.  
(7) NonCollision Fell from Veh  
(8) NonImpact Deployment  
(9) Unknown

CDC 09 - L Y A W - 3

OBJECT CONTACTED: 78 OLDS CUTLASS

PRIMARY/DEPLOYMENT IMPACT:

EVENT NUMBER

TOTAL DELTA-V

LONGITUDINAL DELTA-V

CONFIGURATION

- (0) Struck Object or Pedestrian  
(1) Rear-End  
(2) Head-On  
(3) Rear-to-Rear  
(4) Angle  
(5) Sideswipe - Same Direction  
(6) Sideswipe-Opposite Direct.  
(7) NonCollision Fell from Veh  
(8) NonImpact Deployment  
(9) Unknown

CDC 09 - L Y A W - 3

OBJECT CONTACTED: 78 OLDS CUTLASS

NOTES:

A RBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged\*  
(2) No, Intact  
(8) Not App.(Removed)  
(9) Unknown

CONDITION OF DEPLOYED BAG

- (1) Bag Intact
- (2) Split or Torn\*
- (3) Cut by Object in Impact\*
- (4) Cut after Accident\*
- (5) Other (e.g., burned)\*
- (8) N/A (not deployed)
- (9) Unknown

1

AIRBAG MODULE

SENSORS: Left Front  
Center Front  
Right Front  
Rear, Cowl

2  
2  
1  
2  
2  
2  
2  
1  
2

\*DESCRIBE System and Bag Damage:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DIAGNOSTIC MODULE

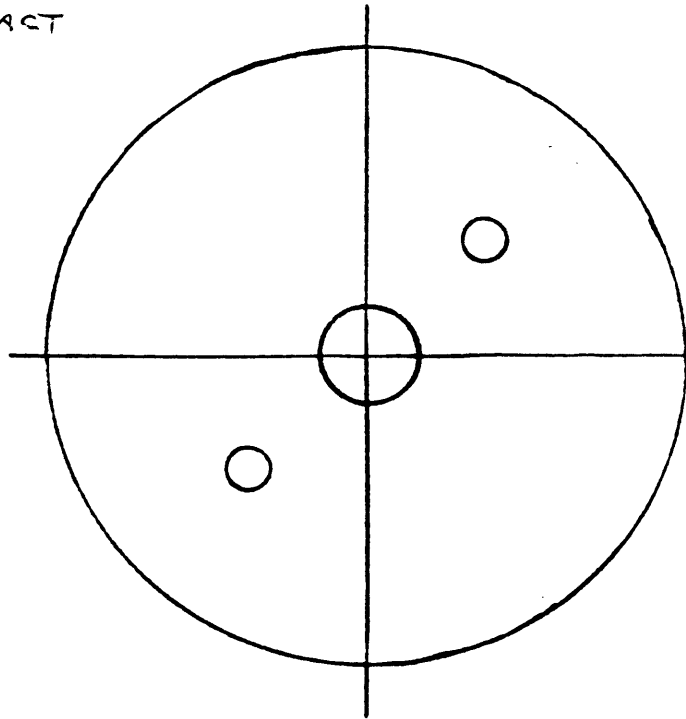
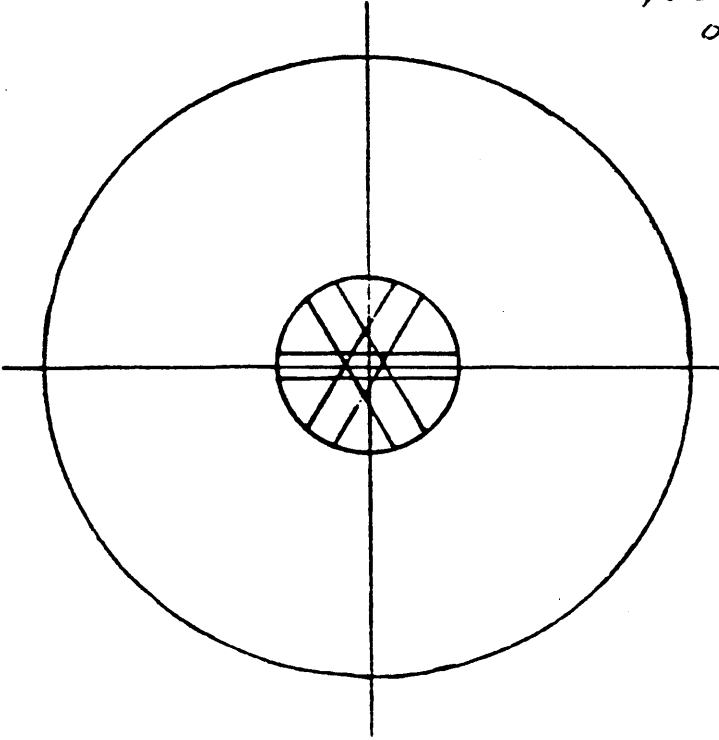
WIRING

KNEE DIVERter DAMAGED BY EXTERIOR DEFORMATION

INDICATION OF DISCONNECTED OR LOOSE ELECTRICAL CONNECTORS

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

NO EVIDENCE  
OF CONTACT  
TOP



BOTTOM

FRONT

BACK

OCCUPANTS of AIRBAG CAR

NUMBER OF OCCUPANTS IN VEHICLE 4  
(8) 8 or more

NUMBER OF INJURED PERSONS 4

MAXIMUM AIS IN AIRBAG VEHICLE 4  
(0) No Injury  
(1-6) AIS Severity  
(7) Injured, Unknown Severity  
(9) Unknown

DRIVER AGE 44 SEX MALE

NUMBER OF DRIVER INJURIES 5

SOURCE OF BEST INJURY DATA 2

(0) Not Injured  
(1) Autopsy w/wo med. records  
(2) Hospital Medical Records  
(3) Emergency Room only  
(4) Private physician, Clinic  
(5) Lay Coroner Report  
(6) EMS Personnel  
(7) Interviewee  
(8) Police  
(9) Unknown

MAXIMUM AIS BY BODY REGION

REGION	MAX AIS	CONTACT
Head/Neck/Face	<u>      </u>	<u>    </u>
Chest	<u>4</u>	<u>    </u>
Abdomen	<u>3</u>	<u>    </u>
Leg/Hips	<u>    </u>	<u>    </u>
Other (Arms)	<u>    </u>	<u>    </u>
DRIVER MAXIMUM	<u>4</u>	<u>    </u>

ELECTION: Extent NONE

Portal N/A

NOTES:



**DRIVER BELT USAGE:** (1) Used (2) Not Used (9) Unknown 1

Evidence: \_\_\_\_\_  
\_\_\_\_\_

**DRIVER POSTURE:** Any Comments Recorded (1) Yes, (2) No 1

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs and feet. Also note hand and arm position. Did driver brace before crash? Describe:

NORMAL SEATED POSITION, LOOKING TO RIGHT  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DRIVER FOREIGN OBJECTS:** Comments Recorded (1) Yes, (2) No 2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**DRIVER COMMENTS:** Comments Recorded (1) Yes, (2) No 2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PASSENGER-AIRBAG CONTACT** (1) Yes, (2) No, (9) Unknown 2

Describe: \_\_\_\_\_  
\_\_\_\_\_

APPENDIX D

NASS Vehicle Forms



US Department of Transportation  
National Highway Traffic Safety  
Administration

# GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number
2. Case Number—Stratum 90-01
3. Vehicle Number 01

## VEHICLE IDENTIFICATION

4. Vehicle Model Year 90  
Code the last two digits of the model year  
(99) Unknown
5. Vehicle Make (specify): 47  
SAAB  
Applicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(99) Unknown
6. Vehicle Model (specify): 031  
9005  
Applicable codes are found in your  
NASS CDS Data Collection, Coding, and  
Editing Manual.  
(999) Unknown
7. Body Type 04  
Note: Applicable codes are found on  
the back of this page.
8. Vehicle Identification Number  
YS3AK46D2L  
Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition 1  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown
10. Police Reported Travel Speed 00  
Code to the nearest mph (NOTE: 00 means  
less than 0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

11. Police Reported Alcohol or Drug Presence 0  
(0) Neither alcohol nor drugs present  
(1) Yes (alcohol present)  
(2) Yes (drugs present)  
(3) Yes (alcohol and drugs present)  
(4) Yes (alcohol or drugs present—specifics  
unknown)  
(7) Not reported  
(8) No driver present  
(9) Unknown

12. Alcohol Test Result for Driver 96  
Code actual value (decimal implied before  
first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source POLICE

## ACCIDENT RELATED

13. Speed Limit 40  
(00) No statutory limit  
Code posted or statutory speed limit  
(99) Unknown
14. Attempted Avoidance Maneuver 01  
(00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):  
      
(99) Unknown

15. Accident Type 98  
Applicable codes may be found on the back  
of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):  
SIDE TO SIDE IMPACT SEQUENCE  
(99) Unknown

\*\*\*\* STOP HERE IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

## CODES FOR BODY TYPE

### CDS APPLICABLE VEHICLES

#### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (08) Other automobile type (specify): \_\_\_\_\_

- 
- (09) Unknown automobile type

#### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, and Brat)
- (11) Auto based panel (cargo station wagon, includes auto based ambulance/hearse)
- (12) Large limousine—more than four side doors or stretched chassis

#### Utility Vehicles

- (13) Short utility—not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- (14) Truck based utility (2-door; includes Blazer, Bronco—78 on, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout)

#### Van Based Light Trucks ( $\leq 10,000$ lbs GVWR)

- (20) Minivan (Espace, Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager [84 and after], Dodge Vista, Mini Ram Van, Toyota Cargo Van, Toyota Van, Vanagon, VW Bus, Kombi)
- (21) Standard van (Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Chateau, Ram Wagon, Vandura, Rally, Voyager [83 and before], Beauville, Sportsman)
- (28) Other van type (specify): \_\_\_\_\_
- (29) Unknown van type

#### Light Conventional Trucks (Pickup Style Cab, $\leq 10,000$ lbs GVWR)

- (30) Compact pickup ( $<4,500$  lbs. GVWR, S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-5, Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
- (31) Standard pickup (4,500 to 10,000 lbs. GVWR, C10 - C30, K10 - K30, T10, D100 - D350, W150 - W350, F100 - F350, Comanche, J10 - J30, Dakota)
- (32) Pickup with slide-in camper
- (33) Truck based station wagon (4-door; includes Suburban, Travelall, Wagoneer)
- (34) Light truck based suburban limousine
- (39) Unknown (pickup style) light conventional truck type

#### Other Light Trucks ( $\leq 10,000$ lbs GVWR)

- (40) Cab chassis based (includes rescue vehicle, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (47) Other light conventional truck type (not a pickup) (specify): \_\_\_\_\_
- (48) Unknown other light truck type (not a pickup)
- (49) Unknown light vehicle type (automobile, van, or light truck)

### OTHER VEHICLES

#### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_

- 
- (59) Unknown bus type

#### Medium/Heavy Trucks ( $>10,000$ lbs GVWR)

- (60) Step van
- (61) Single unit straight truck ( $10,000$  lbs  $<$  GVWR  $\leq 26,000$  lbs)
- (62) Single unit straight truck ( $>26,000$  lbs GVWR)
- (63) Medium/heavy truck based motorhome
- (64) Truck-tractor with no cargo trailer
- (65) Truck-tractor pulling one trailer
- (66) Truck-tractor pulling two or more trailers
- (67) Truck-tractor (unknown if pulling trailer)
- (68) Unknown medium/heavy truck type
- (69) Unknown truck type (light/medium/heavy)

#### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (70) Motorcycle
- (71) Moped (motorized bicycle)
- (78) Other motored cycle type (minibike, motorscooter) (specify): \_\_\_\_\_

- 
- (79) Unknown motored cycle type

#### Other Vehicles

- (80) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (88) Other vehicle type (specify): \_\_\_\_\_

- 
- (99) Unknown body type

**OCCUPANT RELATED**16. Driver Presence in Vehicle 1

- (0) Driver not present  
(1) Driver present  
(9) Unknown

17. Number of Occupants This Vehicle 04

- (00-96) Code actual number of occupants for this vehicle  
(97) 97 or more  
(99) Unknown

18. Number of Occupant Forms Submitted 04**VEHICLE WEIGHT ITEMS**19. Vehicle Curb Weight 02,800

2821 Code weight to nearest 100 pounds.

- (010) Less than 1050 pounds  
(135) 13,500 lbs or more  
(999) Unknown

Source: [REDACTED]

20. Vehicle Cargo Weight 0000

Code weight to nearest 100 pounds.

- (00) Less than 50 pounds  
(97) 9,650 lbs or more  
(99) Unknown

**RECONSTRUCTION DATA**21. Towed Trailing Unit 0

- (0) No towed unit  
(1) Yes – towed trailing unit  
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle 1

- (0) No  
(1) Yes

23. Post Collision Condition of Tree or Pole (for Highest Delta V) 0

- (0) Not collision (for highest delta V) with tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted <45 degrees  
(4) Tilted ≥45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify):  
\_\_\_\_\_

(9) Unknown

24. Rollover 0

- (0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify):  
\_\_\_\_\_

- (5) Rollover – end-over-end (i.e., primarily about the lateral axis)  
(9) Rollover (overturn), details unknown

**OVERRIDE/UNDERRIDE (THIS VEHICLE)**25. Front Override/Underride (this vehicle) 026. Rear Override/Underride (this vehicle) 0

- (0) No override/underride, or not an end-to-end impact

Override (see specific CDC)

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):  
\_\_\_\_\_

Underride (see specific CDC)

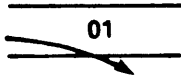
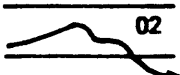
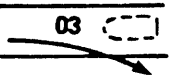
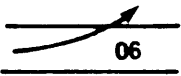
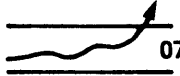
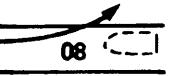
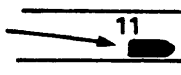
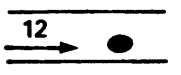
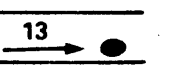
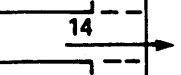
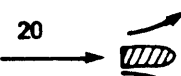
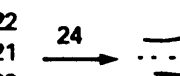
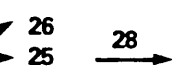
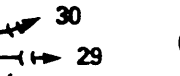

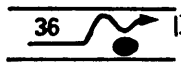

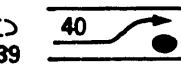
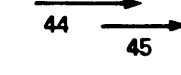
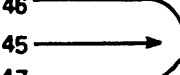

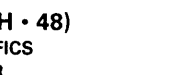



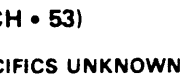


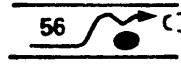
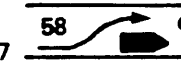
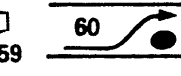



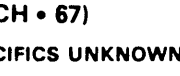

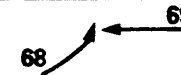
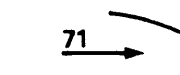
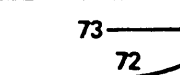

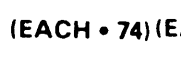
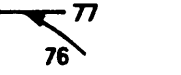
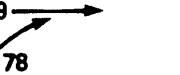
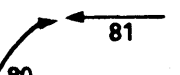
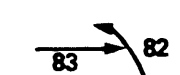

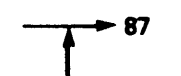


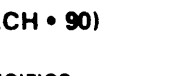
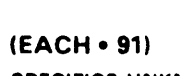
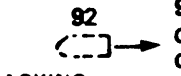




- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):  
\_\_\_\_\_

- (7) Medium/heavy truck override  
(9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown

27. Heading Angle for This Vehicle 00028. Heading Angle for Other Vehicle 153

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I. Single Driver	A. Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B. Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C. Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II. Same Trafficway Same Direction	D. Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 26, 27	 24 DECEL. 28, 29, 30, 31	 26 AVOID COLLISION WITH VEH.	(EACH • 32) SPECIFICS OTHER (EACH • 33) SPECIFICS UNKNOWN
	E. Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER (EACH • 43) SPECIFICS UNKNOWN
	F. Sideswipe Angle	 44 45 46 47	 46 45 47	 48 45 47	 49 45 47	(EACH • 48) SPECIFICS OTHER (EACH • 49) SPECIFICS UNKNOWN
III. Same Trafficway Opposite Direction	G. Head-On	 50 LATERAL MOVE	 51 (EACH • 52) SPECIFICS OTHER	 53 (EACH • 53) SPECIFICS UNKNOWN	 55 (EACH • 52) SPECIFICS OTHER	 57 (EACH • 53) SPECIFICS UNKNOWN
	H. Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER (EACH • 63) SPECIFICS UNKNOWN
	I. Sideswipe Angle	 64 LATERAL MOVE	 65 (EACH • 66) SPECIFICS OTHER	 67 (EACH • 67) SPECIFICS UNKNOWN	 69 (EACH • 66) SPECIFICS OTHER	 71 (EACH • 67) SPECIFICS UNKNOWN
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72 (EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN	 74 (EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN	 76 (EACH • 74) SPECIFICS OTHER (EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	 81 TURN INTO OPPOSITE DIRECTIONS	 83 (EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN	 85 (EACH • 84) SPECIFICS OTHER (EACH • 85) SPECIFICS UNKNOWN
V. Intersecting Paths (Vehicle Damage)	L. Straight Paths	 86 (EACH • 90) SPECIFICS OTHER	 88 (EACH • 90) SPECIFICS OTHER	 90 (EACH • 90) SPECIFICS OTHER	 92 (EACH • 91) SPECIFICS UNKNOWN	 94 (EACH • 91) SPECIFICS UNKNOWN
VI. Miscellaneous	M. Backing Etc.	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	 98 Other Accident Type	 99 Unknown Accident Type	 00 No Impact

## National Accident Sampling System—Crashworthiness Data System: General Vehicle Form

Page 3

## 29. Basis for Total Delta V (Highest)

1

## Delta V Calculated

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

## Delta V Not Calculated

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

## 30. Total Delta V

Secondary Highest

1313.3 Nearest mph

(NOTE: 00 means less than  
0.5 mph)  
(97) 96.5 mph and above  
(99) Unknown

## 31. Longitudinal Component of Delta V

⊕ 02\* 2.3 Nearest mph

(NOTE: \_\_00 means greater than  
-0.5 and less than +0.5 mph)  
(± 97) ± 96.5 mph and above  
(\_\_ 99) Unknown

Secondary Highest

## 32. Lateral Component of Delta V

⊕ 1313.1 Nearest mph

(NOTE: \_\_00 means greater than  
-0.5 and less than +0.5 mph)  
(± 97) ± 96.5 mph and above  
(\_\_ 99) Unknown

## 33. Energy Absorption

032,90032939 Nearest 100 foot-lbs

(NOTE: 0000 means less than 50 Foot-Lbs)  
(9997) 999,650 foot-lbs or more  
(9999) Unknown

## 34. Confidence in Reconstruction Program Results (for Highest Delta V)

1

- (0) No reconstruction
- (1) Collision fits model—results appear reasonable
- (2) Collision fits model—results appear high
- (3) Collision fits model—results appear low
- (4) Borderline reconstruction—results appear reasonable

## 35. Type of Vehicle Inspection

1

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.



## EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number	_____	3. Vehicle Number	<u>01</u>
2. Case Number – Stratum	<u>90-01</u>		

## VEHICLE IDENTIFICATION

VIN Y S 3 A K 4 6 D 2 L 3 [REDACTED] Model Year 1990  
Vehicle Make (specify): SAAB Vehicle Model (specify): 900S 4 DR.

## LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
1	LEFT SIDE 92.3" STARTS 4" FORWARD OF LR AXLE	111.25" STARTS 6.5" REARWARD OF LR AXLE
2	LEFT FRONT CORNER STARTS 15.1 - 27.5"	SAME AS DIRECT

## CRUSH PROFILE

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space). LEFT DEFLECTOR ON BUMPER

↓ LEFT OF CENTER ON BUMPER

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

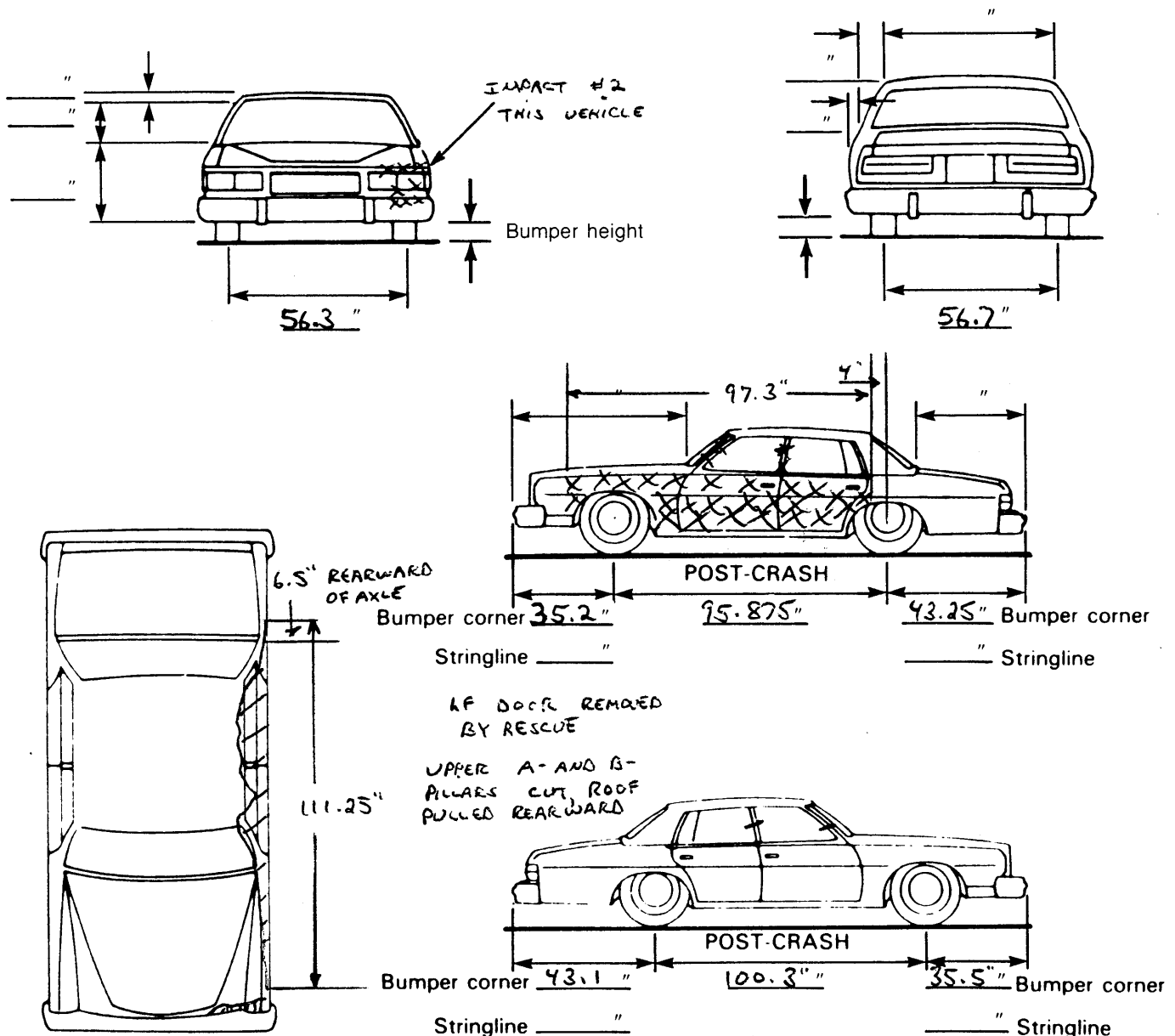
Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

[illegible]

## VEHICLE DAMAGE SKETCH

<b>TIRE – WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>99.1"</u> Overall Length <u>184.3"</u> Maximum Width <u>66.5"</u> Curb Weight <u>2821</u> Average Track <u>56.5</u> Front Overhang _____ Rear Overhang _____ Engine Size: cyl./ displ. <u>4-4, 2.0L</u> Undeformed End Width <u>55"</u>		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____° LF ± _____° RR ± _____° LR ± _____° Within ± 5 degrees	
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD	
				Approximate Cargo Weight <u>NONE</u>	



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewall, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

## CDC WORKSHEET

## CODES FOR OBJECT CONTACTED

## 01-30 – Vehicle Number

## Noncollision

- (31) Overturn – rollover  
 (32) Fire or explosion  
 (33) Jackknife  
 (34) Other intraunit damage (specify):

- (35) Noncollision injury  
 (38) Other noncollision (specify):

## (39) Noncollision – details unknown

## Collision with Fixed Object

- (41) Tree ( $\leq 4$  inches in diameter)  
 (42) Tree ( $> 4$  inches in diameter)  
 (43) Shrubbery or bush  
 (44) Embankment

## (45) Breakaway pole or post (any diameter)

## Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 4$  inches in diameter)  
 (51) Pole or post ( $> 4$  but  $\leq 12$  inches in diameter)  
 (52) Pole or post ( $> 12$  inches in diameter)  
 (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier  
 (55) Impact attenuator  
 (56) Other traffic barrier (specify):

- (57) Fence  
 (58) Wall  
 (59) Building  
 (60) Ditch or Culvert  
 (61) Ground  
 (62) Fire hydrant  
 (63) Curb  
 (64) Bridge  
 (68) Other fixed object (specify):

## (69) Unknown fixed object

## Collision With Nonfixed Object

- (71) Motor vehicle not in transport  
 (72) Pedestrian  
 (73) Cyclist or cycle  
 (74) Other nonmotorist or conveyance (specify):

- (75) Vehicle occupant  
 (76) Animal  
 (77) Train  
 (78) Trailer, disconnected in transport  
 (88) Other nonfixed object (specify):

## (89) Unknown nonfixed object

## (98) Other event (specify):

## (99) Unknown event or object

## DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
02	02	285	00	L	Y	A	W	03
03	02	330	00	F	L	E	N	01
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

**COLLISION DEFORMATION CLASSIFICATION****HIGHEST DELTA "V"**

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>02</u>	5. <u>02</u>	6. <u>09</u>	7. <u>L</u>	8. <u>Y</u>	9. <u>A</u>	10. <u>W</u>	11. <u>03</u>

**Second Highest Delta "V"**

12. <u>03</u>	13. <u>02</u>	14. <u>11</u>	15. <u>F</u>	16. <u>L</u>	17. <u>E</u>	18. <u>N</u>	19. <u>01</u>
---------------	---------------	---------------	--------------	--------------	--------------	--------------	---------------

**CRUSH PROFILE**

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. ALL MEASUREMENTS ARE IN INCHES.)

**HIGHEST DELTA "V"**

20. L	21. C1	C2	C3	C4	C5	C6	22. + - D
<u>111</u>	<u>00</u>	<u>12</u>	<u>06</u>	<u>14</u>	<u>05</u>	<u>00</u>	<u>⊕ 001</u>

**Second Highest Delta "V"**

23. L	24. C1	C2	C3	C4	C5	C6	25. + - D
<u>012</u>	<u>01</u>	<u>01</u>	<u>01</u>	<u>00</u>	<u>-</u>	<u>-</u>	<u>⊕ 021</u>

26. Are CDCs Documented but Not Coded on The Automated File  
(0) No  
(1) Yes

0

27. Researcher's Assessment of Vehicle Disposition  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

1

28. Original Wheelbase  
99.1 Code to the nearest tenth of an inch  
(9999) Unknown

099.1

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED \*\*\*  
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



# INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number — Stratum

3. Vehicle Number

## INTEGRITY

4. Passenger Compartment Integrity

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (rear)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate Or Hatch Opening

6. LF 3 8. RF 3 7. LR 3 9. RH 1 10. TG/H 0

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated With Door, Tailgate or Hatch Opening in Collision. If None, Code 0. If Yes, Then Code 1.

10. LF 0 11. RF 0 12. LR 0 13. RH 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate, or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

## GLAZING

Glazing Damage from Impact Forces

15. WS 2 16. LF 6 17. RF 0 18. LR 6 19. RH 0  
20. BL 0 21. Roof 8 22. Other 8

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RH 0  
28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage **And** No Occupant Contact or No Glazing, Then Code IV 31 Through IV 46 As 0

Type of Window/Windshield Glazing

31. WS 1 32. LF 2 33. RF 3 34. LR 2 35. RH 2  
36. BL 2 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing

(1) AS-1 — Laminated

(2) AS-2 — Tempered

(3) AS-3 — Tempered-tinted

(4) AS-14 — Glass/Plastic

(8) Other (specify):

(9) Unknown

Window Pre-crash Glazing Status

39. WS 1 40. LF 2 41. RF 2 42. LR 2 43. RH 2  
44. BL 1 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing

(1) Fixed

(2) Closed

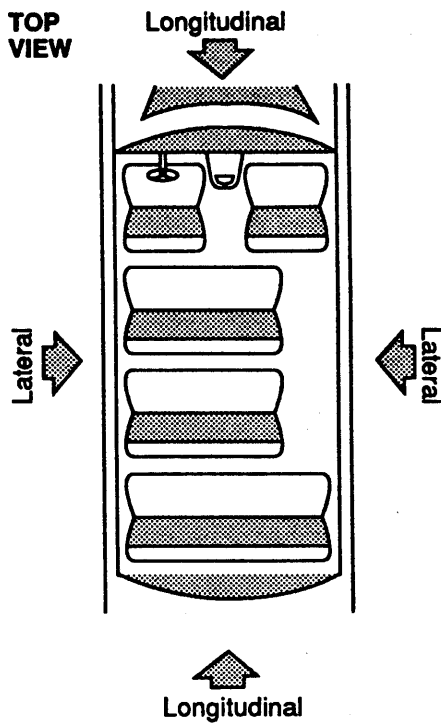
(3) Partially opened

(4) Fully opened

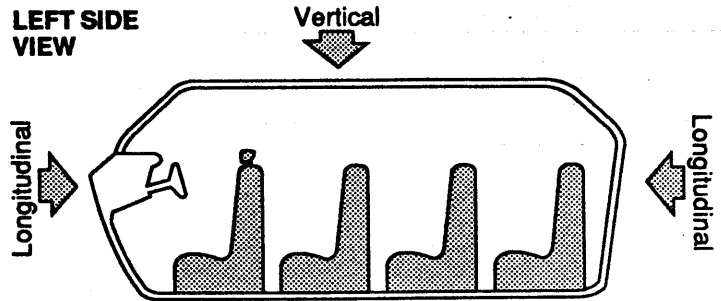
(9) Unknown

# INTRUSION WORK SHEET

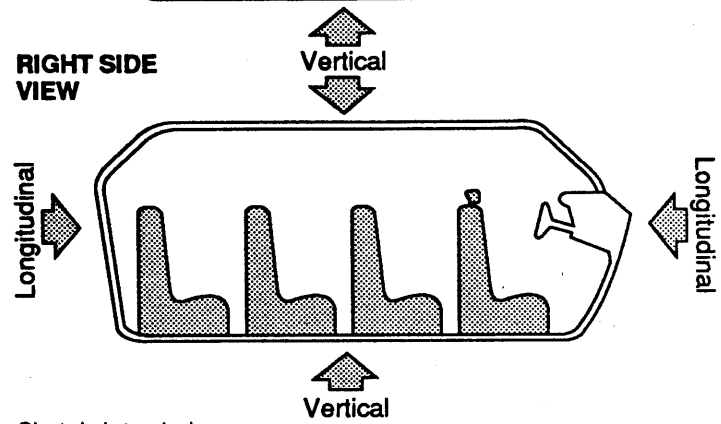
**TOP VIEW**



**LEFT SIDE VIEW**



**RIGHT SIDE VIEW**



Note: Sketch intruded areas

LOCATION OF INTRUSION	INTRUDED COMPONENT	COMPARISON VALUE	-	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		

Document no more than the 15 most severe intrusions

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV 47-IV 86 blank.

## INTRUDING COMPONENT

## Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back panel or door surface
- (26) Other interior component (specify):

- (27) Side panel - forward of the A-pillar
- (28) Side panel - rear of the A-pillar

## Exterior Components

- (30) Hood
- (31) Outside surface of vehicle (specify):
- (32) Other exterior object in the environment (specify):
- (33) Unknown exterior object

- (98) Intrusion of unlisted component(s) (specify):
- (99) Unknown

## MAGNITUDE OF INTRUSION

- (1)  $\geq 1$  inch but  $< 3$  inches
- (2)  $\geq 3$  inches but  $< 6$  inches
- (3)  $\geq 6$  inches but  $< 12$  inches
- (4)  $\geq 12$  inches but  $< 18$  inches
- (5)  $\geq 18$  inches but  $< 24$  inches
- (6)  $\geq 24$  inches
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (9) Unknown

## LOCATION OF INTRUSION

## Front Seat

- (11) Left
- (12) Middle
- (13) Right

## Second Seat

- (21) Left
- (22) Middle
- (23) Right

## Third Seat

- (31) Left
- (32) Middle
- (33) Right

## Fourth Seat

- (41) Left
- (42) Middle
- (43) Right

(98) Other enclosed area (specify):

(99) Unknown

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47 04	48 17	49 3	50 3
2nd	51 04	52 10	53 3	54 3
3rd	55 01	56 06	57 2	58 3
4th	59 01	60 06	61 2	62 3
5th	63 01	64 02	65 2	66 3
6th	67 01	68 10	69 2	70 3
7th	71	72	73	74
8th	75	76	77	78
9th	79	80	81	82
10th	83	84	85	86



## STEERING COLUMN WORKING DIAGRAMS

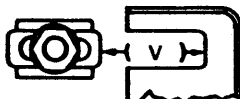
### STEERING COLUMN COLLAPSE

Steering Column Shear Module Movement



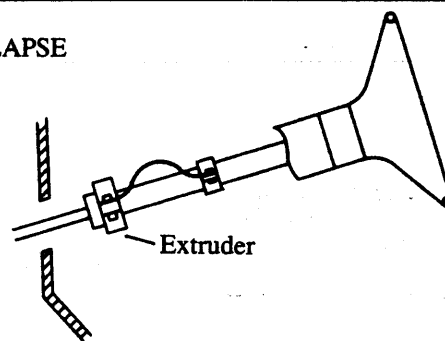
SHEAR CAPSULE

Left \_\_\_\_



Right \_\_\_\_ V = \_\_\_\_"

Direction and Magnitude of Steering Column Movement



Extruder

After Compression

Flare Tube

Possible Remaining Starter Grooves At 6 and 12 o'clock

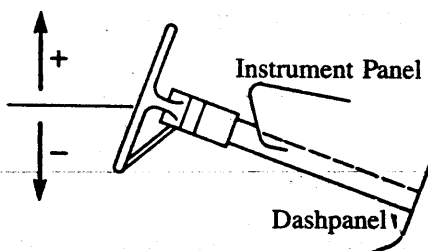
Extruder

Compression = Measurement A

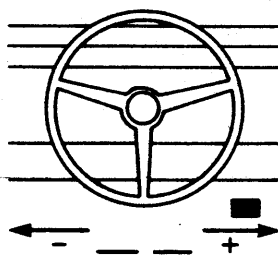
A = \_\_\_\_

### STEERING COLUMN MOVEMENT

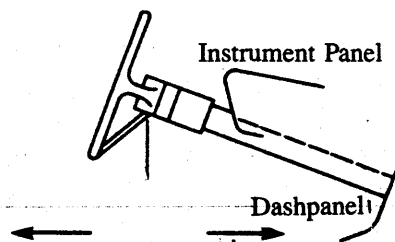
Vertical Movement



Lateral Movement



Longitudinal Movement



	COMPARISON VALUE	—	DAMAGED VALUE	=	MOVEMENT
VERTICAL		—		=	
LATERAL		—		=	
LONGITUDINAL		—		=	

### STEERING RIM/SPOKE DEFORMATION

COMPARISON VALUE	—	DAMAGED VALUE	=	DEFORMATION
	—		=	
	—		=	

**STEERING COLUMN****87. Steering Column Type**

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify): \_\_\_\_\_

(9) Unknown

If PDOF  $\neq$  11, 12 or 1, Then Code IV88-IV91 As 96

**88. Steering Column Collapse Due to Occupant Loading**

\_\_\_\_\_ Code actual measured movement to the nearest inch. See coding manual for measurement technique(s).

- (00) No movement, compression, or collapse  
 (01-49) Actual measured value  
 (50) 50 inches or greater

Estimated movement from observation

- (81) Less than 1 inch  
 (82)  $\geq$  1 inch but  $<$  2 inches  
 (83)  $\geq$  2 inches but  $<$  4 inches  
 (84)  $\geq$  4 inches but  $<$  6 inches  
 (85)  $\geq$  6 inches but  $<$  8 inches  
 (86) Greater than or equal to 8 inches  
 (96) Not assessed (PDOF  $\neq$  11, 12, 1)  
 (97) Apparent movement, value undetermined or cannot be measured or estimated  
 (98) Nonspecified type column  
 (99) Unknown

**Direction And Magnitude of Steering Column Movement****89. Vertical Movement****90. Lateral Movement****91. Longitudinal Movement**

Code the actual measured movement to the nearest inch. See Coding Manual for measurement technique(s)  
 (+00) No Steering column movement  
 ( $\pm$ 01— $\pm$ 49) Actual measured value  
 ( $\pm$ 50) 50 inches or greater

Estimated movement from observation

- ( $\pm$ 81)  $\geq$  1 inch but  $<$  3 inches  
 ( $\pm$ 82)  $\geq$  3 inches but  $<$  6 inches  
 ( $\pm$ 83)  $\geq$  6 inches but  $<$  12 inches  
 ( $\pm$ 84)  $\geq$  12 inches  
 (\_\_\_96) Not assessed (PDOF  $\neq$  11, 12, 1)  
 (\_\_\_97) Apparent movement  $>$  1 inch but cannot be measured or estimated  
 (\_\_\_99) Unknown

**92. Steering Rim/Spoke Deformation**

\_\_\_\_\_ Code actual measured deformation to the nearest inch.

- (0) No steering rim deformation  
 (1-5) Actual measured value  
 (6) 6 inches or more  
 (8) Observed deformation cannot be measured  
 (9) Unknown

**93. Location of Steering Rim/Spoke Deformation**

(00) No steering rim deformation

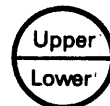
Quarter Sections

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D



Half Sections

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

**INSTRUMENT PANEL****94. Odometer Reading**

2556 miles—Code mileage to the nearest 1,000 miles

- (000) No odometer  
 (001) Less than 1,500 miles  
 (300) 299,500 miles or more  
 (999) Unknown

Source: \_\_\_\_\_

**95. Instrument Panel Damage from Occupant Contact**

- (0) No  
 (1) Yes  
 (9) Unknown

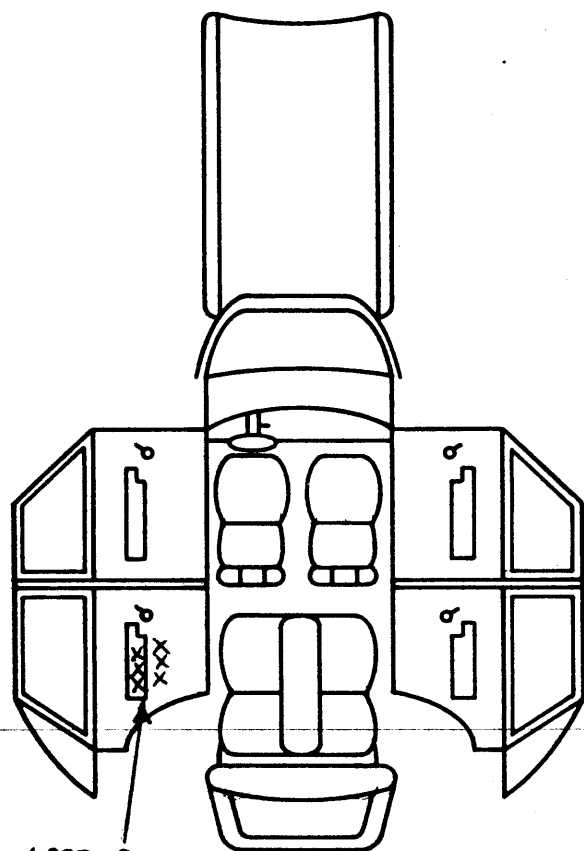
**96. Knee Bolsters Deformed from Occupant Contact**

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

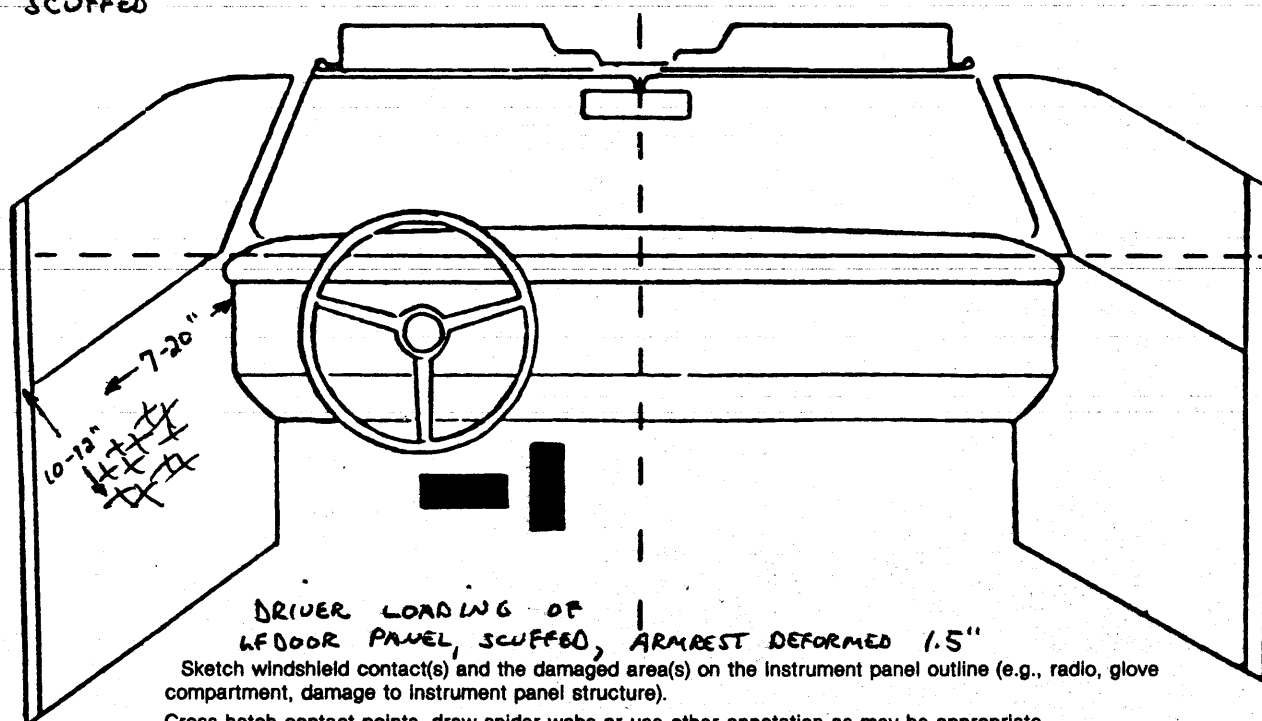
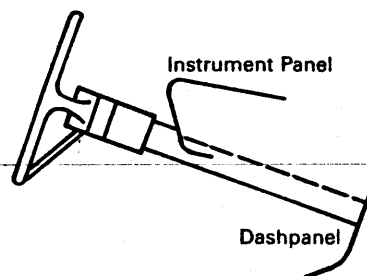
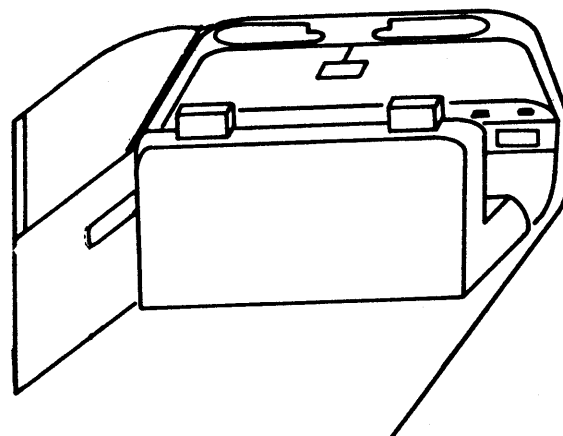
**97. Air Bag Deployment**

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

## VEHICLE INTERIOR SKETCHES



LEFT, REAR OCCUPANT  
LOADING OF THE LEFT  
DOOR PANEL AND ARMREST,  
SCUFFED



DRIVER LOADING OF  
LF DOOR PANEL, SCUFFED, ARMREST DEFORMED 1.5"  
Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove  
compartment, damage to instrument panel structure).  
Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.  
Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	20	1	LEFT ABD/TORSO	SCUFFED	1
B	20	3	"	SCUFFED	1
C	21	1	"	BOWED	1
D	21	3	"	SCUFFED	1
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail

- (27) Other left side object (specify): \_\_\_\_\_

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air cushion
- (46) Other occupants (specify): \_\_\_\_\_
- (47) Interior loose objects

- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (4) Unknown

## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Availability	1	-	-
	Function	4	-	-
	Failure	1	-	-

### Automatic (Passive) Restraint System Availability

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_
- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

### Automatic (Passive) Restraint Function

- (0) Not equipped/not available

#### Automatic Belt

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

#### Air Bag

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

### Did Automatic (Passive) Restraint Fail

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_
- (9) Unknown

## MANUAL RESTRAINTS

NOTES: Encode the applicable data for each seat position in the vehicle. The attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	-	4
	Use	04	-	04
	Failure Modes	1		1
SECOND	Availability	4	3	4
	Use	04	-	04
	Failure Modes	1	-	1
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

## Manual (Active) Belt System Availability

(08) Other belt used (specify):

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available – type unknown
- (8) Other belt (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat – type unknown
- (18) Other belt used with child safety seat (specify):

(9) Unknown

(99) Unknown if belt used

## Manual (Active) Belt System Use

## Manual (Active) Belt Failure Modes During Accident

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used – type unknown

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Manual belt failure(s) (encode all that apply above)
  - [A] Torn webbing (stretched webbing not included)
  - [B] Broken buckle or latchplate
  - [C] Upper anchorage separated
  - [D] Other anchorage separated (specify):

- [E] Broken retractor
- [F] Other manual belt failure (specify):

(9) Unknown

**CHILD SAFETY SEAT FIELD ASSESSMENT**

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

**1. Type of Child Safety Seat**

- (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_

- (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

**2. Child Safety Seat Orientation**

- (00) No child safety seat  
 Designed for Rear Facing for This Age/Weight  
 (01) Rear facing  
 (02) Forward facing  
 (03) Other orientation (specify):  
 \_\_\_\_\_  
 (04) Unknown orientation  
 Designed for Forward Facing for This Age/Weight  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_

- (19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_

- (29) Unknown orientation

- (99) Unknown if child safety seat used

**3. Child Safety Seat Harness Usage****4. Child Safety Seat Shield Usage****5. Child Safety Seat Tether Usage**

Note: Options Below Are Used for Variables 3-5.

(00) No child safety seat

Not Designed with Harness/Shield/Tether

(01) After market harness/shield/tether added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market harness/shield/tether added

(09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

Unknown if Designed with Harness/Shield/Tether

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**6. Child Safety Seat Make/Model**

(Specify make/model and occupant number)

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## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attributes for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	-	3
	Seat Type	01	-	01
	Seat Performance	1	-	1
SECOND	Head Restraint Type/Damage	3	-	3
	Seat Type	03	03	03
	Seat Performance	1	1	1
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral – no damage
- (2) Integral – damaged during accident
- (3) Adjustable – no damage
- (4) Adjustable – damaged during accident
- (5) Add-on – no damage
- (6) Add-on – damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

## Seat Type (This Occupant Position)

- (00) No seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify): \_\_\_\_\_
- (99) Unknown

## Seat Performance (This Occupant Position)

- (0) No seat
- (1) No seat performance failure(s)
- (2) Seat performance failure(s)  
(Encode all that apply)
- [A] Seat adjusters failed
- [B] Seat back folding locks failed
- [C] Seat tracks failed
- [D] Seat anchors failed
- [E] Deformed by impact of passenger from rear
- [F] Deformed by impact of passenger from front
- [G] Deformed by own inertial forces
- [H] Deformed by passenger compartment intrusion  
(specify): \_\_\_\_\_

[I] Other (specify): \_\_\_\_\_

(9) Unknown

## DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E. UNUSUAL OCCUPANT CONTACT PATTERN)

**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indications that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** ☐ **ENTRAPMENT** ☐

Describe indications of ejection and body parts involved in partial ejection(s):

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Occupant Number						
Ejection						
Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

- (9) Unknown

**Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

- (9) Unknown

**Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

Describe entrapment mechanism: \_\_\_\_\_

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Component(s): \_\_\_\_\_

(Note in vehicle interior diagram)

APPENDIX E

NASS Occupant Forms



## OCCUPANT ASSESSMENT FORM

<p>1. <del>Primary Sampling Unit Number</del> _____</p> <p>2. Case Number—Stratum <u>90-01</u></p> <p>3. Vehicle Number <u>01</u></p> <p>4. Occupant Number <u>01</u></p>	<p>11. Occupant's Posture <u>0</u></p> <p>(0) Normal posture</p> <p>(1) Abnormal posture (specify): _____</p> <p>(9) Unknown</p>
<b>OCCUPANT'S CHARACTERISTICS</b>	
<p>5. Occupant's Age <u>44</u></p> <p>Code actual age at time of accident.</p> <p>(00) Less than one year old (specify by month): _____</p> <p>(97) 97 years and older</p> <p>(99) Unknown</p>	<p>12. Ejection <u>0</u></p> <p>(0) No ejection</p> <p>(1) Complete ejection</p> <p>(2) Partial ejection</p> <p>(3) Ejection, unknown degree</p> <p>(9) Unknown</p>
<p>6. Occupant's Sex <u>1</u></p> <p>(1) Male</p> <p>(2) Female</p> <p>(9) Unknown</p>	<p>13. Ejection Area <u>0</u></p> <p>(0) No ejection</p> <p>(1) Windshield</p> <p>(2) Left front</p> <p>(3) Right front</p> <p>(4) Left rear</p> <p>(5) Right rear</p> <p>(6) Rear</p> <p>(7) Roof</p> <p>(8) Other area (e.g., back of pickup, etc.)</p> <p>(specify): _____</p> <p>(9) Unknown</p>
<p>7. Occupant's Height <u>72</u></p> <p>Code actual height to the nearest inch.</p> <p>(99) Unknown</p>	<p>14. Ejection Medium <u>0</u></p> <p>(0) No ejection</p> <p>(1) Door/hatch/tailgate</p> <p>(2) Nonfixed roof structure</p> <p>(3) Fixed glazing</p> <p>(4) Nonfixed glazing (specify): _____</p> <p>(5) Integral structure</p> <p>(8) Other medium (specify): _____</p> <p>(9) Unknown</p>
<p>8. Occupant's Weight <u>195</u></p> <p>Code actual weight to the nearest pound.</p> <p>(999) Unknown</p>	<p>15. Medium Status (Immediately Prior to Impact) <u>0</u></p> <p>(0) No ejection</p> <p>(1) Open</p> <p>(2) Closed</p> <p>(3) Integral structure</p> <p>(9) Unknown</p>
<p>9. Occupant's Role <u>1</u></p> <p>(1) Driver</p> <p>(2) Passenger</p> <p>(9) Unknown</p>	<p>16. Entrapment <u>0</u></p> <p>(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)</p> <p>(0) Not entrapped</p> <p>(1) Entrapped</p> <p>(9) Unknown</p>
<p>10. Occupant's Seat Position <u>11</u></p> <p>Front Seat</p> <p>(11) Left side</p> <p>(12) Middle</p> <p>(13) Right side</p> <p>(14) Other (specify): _____</p> <p>Second Seat</p> <p>(21) Left side</p> <p>(22) Middle</p> <p>(23) Right side</p> <p>(24) Other (specify): _____</p> <p>Third Seat</p> <p>(31) Left side</p> <p>(32) Middle</p> <p>(33) Right side</p> <p>(34) Other (specify): _____</p> <p>Fourth Seat</p> <p>(41) Left side</p> <p>(42) Middle</p> <p>(43) Right side</p> <p>(44) Other (specify): _____</p> <p>(97) In or on unenclosed area</p> <p>(98) Other seat (specify): _____</p> <p>(99) Unknown</p>	

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown
- (8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**18. Manual (Active) Belt System Use** 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat

(specify): \_\_\_\_\_

(99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**20. Manual (Active) Belt Failure Modes During Accident** 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Manual belt failure(s) (check all that apply)
- [ ] Torn webbing (stretched webbing not included)
- [ ] Broken buckle or latchplate
- [ ] Upper anchorage separated
- [ ] Other anchorage separated (specify): \_\_\_\_\_

[ ] Broken retractor

[ ] Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

**21. Automatic (Passive) Restraint System Availability** 1

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

**22. Automatic (Passive) Restraint Function** 4

- (0) Not equipped/not available

Automatic Belt

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

Air Bag

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

**23. Did Automatic (Passive) Restraint Fail** 1

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown

**24. Police Reported Restraint Use** 4

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

- (8) Restrained, type unknown
- (9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

26. Seat Type (This Occupant Position) 01

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., van type)
- (09) Other seat type (specify):

\_\_\_\_\_  
(99) Unknown

27. Seat Performance (This Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat performance failure(s)  
(check all that apply)
- ☐ [ ] Seat adjusters failed
- ☐ [ ] Seat back folding locks failed
- ☐ [ ] Seat tracks failed
- ☐ [ ] Seat anchors failed
- ☐ [ ] Deformed by impact of passenger from rear
- ☐ [ ] Deformed by impact of passenger from front
- ☐ [ ] Deformed by own inertial forces
- ☐ [ ] Deformed by passenger compartment intrusion (specify):

\_\_\_\_\_  
[ ] Other (specify):

\_\_\_\_\_  
(9) Unknown

**CHILD SAFETY SEAT**28. Child Safety Seat Make/Model 000

- (000) No child safety seat
- Applicable codes are found in your NASS CDS  
Data Collection, Coding, and Editing Manual
- (997) Other make/model (specify):

\_\_\_\_\_  
(998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

\_\_\_\_\_  
(8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00

- (00) No child safety seat

Designed for Rear Facing for This Age/Weight

- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

\_\_\_\_\_  
(09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

\_\_\_\_\_  
(19) Unknown orientation

Unknown Design or Orientation for This  
Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

\_\_\_\_\_  
(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 0032. Child Safety Seat Shield Usage 0033. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****34. Injury Severity (Police Rating)** 3

- (0) O – No injury
- (1) C – Possible injury
- (2) B – Nonincapacitating injury
- (3) A – Incapacitating injury
- (4) K – Killed
- (5) U – Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**35. Treatment – Mortality** 3

- (0) No treatment
- (1) Fatal
- (2) Fatal – ruled disease

Nonfatal

- (3) Hospitalized
- (4) Transported and released
- (5) Treatment at scene – nontransported
- (6) Treatment later
- (8) Treatment – other (specify):

(9) Unknown

**36. Type of Medical Facility (for Initial Treatment)** 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

**37. Hospital stay** 31

Code number of days (up through 60)

that the occupant stayed in the hospital

- (00) Not hospitalized
- (61) 61 days or more
- (99) Unknown

**38. Working Days Lost** 99

Code the number of days

(up through 60) that the occupant lost from work due to the accident

- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**39. Time to Death** 00

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal
- (96) Fatal – ruled disease
- (99) Unknown

**40. 1st Medically Reported Cause of Death** 00**41. 2nd Medically Reported Cause of Death** 00**42. 3rd Medically Reported Cause of Death** 00

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes
- (97) Other result (specify):

(99) Unknown

**43. Number of Recorded Injuries for This Occupant** 05

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

UPDATE CANDIDATE

NO ☒YES ☐**\*\*\* STOP HERE \*\*\*****IF THERE ARE NO RECORDED INJURIES****(I.E., OA43=00, 97, 99)**





## OCCUPANT INJURY FORM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number — Stratum

4. Occupant Number

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.—A.I.S.					Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
		Body Region	Aspect	Lesion	System Organ	A.I.S. Severity				
1st	5. <u>2</u>	6. <u>C</u>	7. <u>L</u>	8. <u>F</u>	9. <u>S</u>	10. <u>4</u>	11. <u>20</u>	12. <u>1</u>	13. <u>1</u>	14. <u>06</u>
2nd	15. <u>2</u>	16. <u>M</u>	17. <u>R</u>	18. <u>L</u>	19. <u>R</u>	20. <u>3</u>	21. <u>21</u>	22. <u>1</u>	23. <u>1</u>	24. <u>06</u>
3rd	25. <u>2</u>	26. <u>M</u>	27. <u>S</u>	28. <u>L</u>	29. <u>R</u>	30. <u>3</u>	31. <u>21</u>	32. <u>1</u>	33. <u>1</u>	34. <u>06</u>
4th	35. <u>2</u>	36. <u>B</u>	37. <u>I</u>	38. <u>F</u>	39. <u>S</u>	40. <u>2</u>	41. <u>92</u>	42. <u>1</u>	43. <u>3</u>	44. <u>00</u>
5th	45. <u>2</u>	46. <u>C</u>	47. <u>L</u>	48. <u>C</u>	49. <u>I</u>	50. <u>1</u>	51. <u>20</u>	52. <u>1</u>	53. <u>1</u>	54. <u>06</u>
6th	55. <u>  </u>	56. <u>  </u>	57. <u>  </u>	58. <u>  </u>	59. <u>  </u>	60. <u>  </u>	61. <u>  </u>	62. <u>  </u>	63. <u>  </u>	64. <u>  </u>
7th	65. <u>  </u>	66. <u>  </u>	67. <u>  </u>	68. <u>  </u>	69. <u>  </u>	70. <u>  </u>	71. <u>  </u>	72. <u>  </u>	73. <u>  </u>	74. <u>  </u>
8th	75. <u>  </u>	76. <u>  </u>	77. <u>  </u>	78. <u>  </u>	79. <u>  </u>	80. <u>  </u>	81. <u>  </u>	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>
9th	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>	93. <u>  </u>	94. <u>  </u>
10th	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>	104. <u>  </u>

AGE 44  
SEX MALE  
WT. 195 lbs.  
HT. 72"

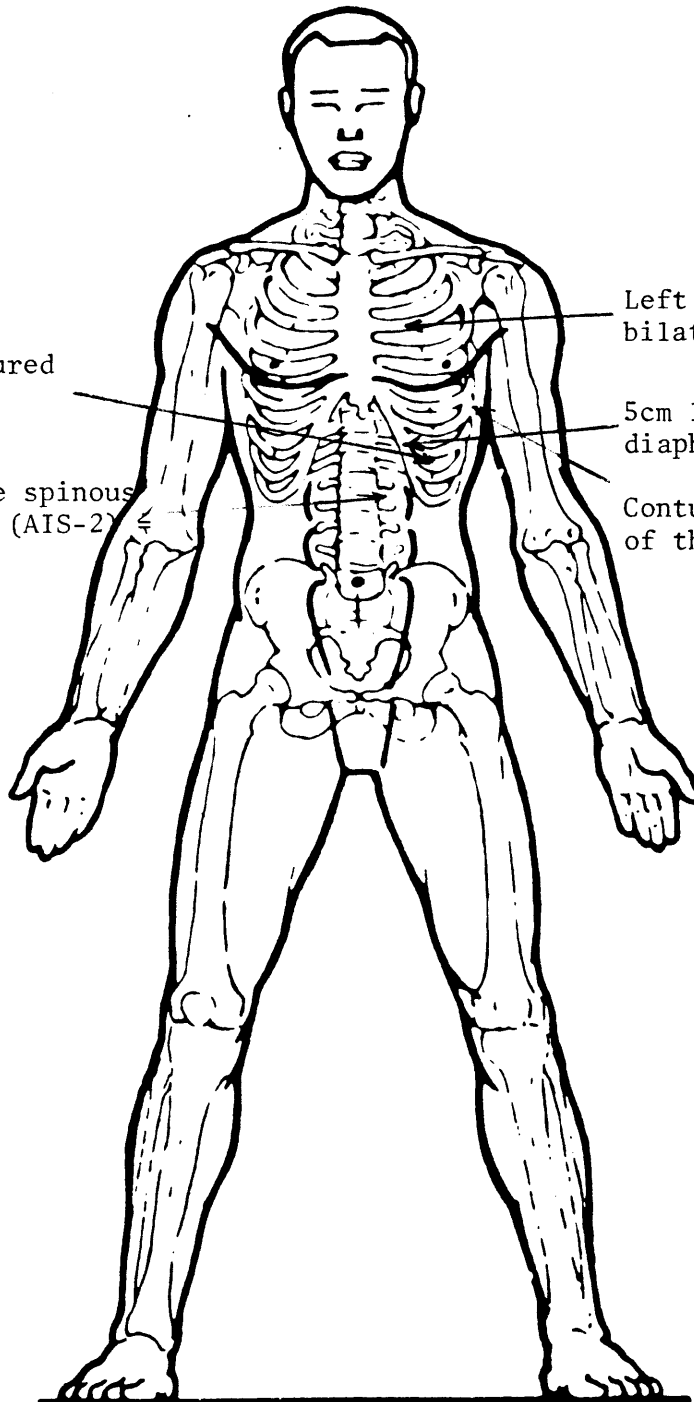
Fractured/ruptured  
spleen (AIS-3)

Fracture of the spinous  
process of L-2 (AIS-2)

Left rib fractures 3-7 with  
bilateral pneumothorax (AIS-4)

5cm laceration of the left  
diaphragm (AIS-3)

Contusion of the lateral aspect  
of the mid chest area (AIS-1)



**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (eg. discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify):
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add-on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify):

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify):
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify):

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify):
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
- (37) Other right side object (specify):

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify):

- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify):

- (47) Interior loose objects
- (48) Child safety seat (specify):

- (49) Other interior object (specify):

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify):

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify):

- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify):

- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify):

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify):

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify):

- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify):

- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****O.I.C. Body Region**

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head-skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck-cervical spine
- (P) Pelvic-hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body

**(W) Wrist-hand****Aspect of Injury**

- (A) Anterior-front
- (B) Bilateral (rib fracture only)
- (C) Central
- (I) Inferior-lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior-back
- (R) Right
- (S) Superior-upper
- (W) Whole region

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush

**(G) Detachment, separation**

- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

**System/Organ**

- (W) All systems in region
- (A) Arteries-veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system

**(I) Integumentary**

- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary-lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number
2. Case Number—Stratum 90-01
3. Vehicle Number 01
4. Occupant Number 02

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 17  
Code actual age at time of accident.  
(00) Less than one year old (specify by month):  
\_\_\_\_\_  
(97) 97 years and older  
(99) Unknown
6. Occupant's Sex 1  
(1) Male  
(2) Female  
(9) Unknown
7. Occupant's Height 70  
Code actual height to the nearest inch.  
(99) Unknown
8. Occupant's Weight 165  
Code actual weight to the nearest pound.  
(999) Unknown
9. Occupant's Role 2  
(1) Driver  
(2) Passenger  
(9) Unknown
10. Occupant's Seat Position 13  
Front Seat  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify): \_\_\_\_\_  
Second Seat  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify): \_\_\_\_\_  
Third Seat  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify): \_\_\_\_\_  
Fourth Seat  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify): \_\_\_\_\_  
(97) In or on unenclosed area  
(98) Other seat (specify): \_\_\_\_\_  
(99) Unknown

11. Occupant's Posture 0  
(0) Normal posture  
(1) Abnormal posture (specify): \_\_\_\_\_  
(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 0  
(0) No ejection  
(1) Complete ejection  
(2) Partial ejection  
(3) Ejection, unknown degree  
(9) Unknown
13. Ejection Area 0  
(0) No ejection  
(1) Windshield  
(2) Left front  
(3) Right front  
(4) Left rear  
(5) Right rear  
(6) Rear  
(7) Roof  
(8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_  
(9) Unknown
14. Ejection Medium 0  
(0) No ejection  
(1) Door/hatch/tailgate  
(2) Nonfixed roof structure  
(3) Fixed glazing  
(4) Nonfixed glazing (specify): \_\_\_\_\_  
(5) Integral structure  
(8) Other medium (specify): \_\_\_\_\_  
(9) Unknown
15. Medium Status (Immediately Prior to Impact) 0  
(0) No ejection  
(1) Open  
(2) Closed  
(3) Integral structure  
(9) Unknown
16. Entrapment 0  
(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)  
(0) Not entrapped  
(1) Entrapped  
(9) Unknown

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown
- (8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**18. Manual (Active) Belt System Use** 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat

(specify): \_\_\_\_\_

(99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

**Belt Used Improperly**

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**20. Manual (Active) Belt Failure Modes During Accident** 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Manual belt failure(s) (check all that apply)
- [ ] Torn webbing (stretched webbing not included)
- [ ] Broken buckle or latchplate
- [ ] Upper anchorage separated
- [ ] Other anchorage separated (specify): \_\_\_\_\_

[ ] Broken retractor

[ ] Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

**21. Automatic (Passive) Restraint System Availability** 0

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

**22. Automatic (Passive) Restraint Function** 0

- (0) Not equipped/not available

**Automatic Belt**

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

**Air Bag**

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

**23. Did Automatic (Passive) Restraint Fail** 0

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown

**24. Police Reported Restraint Use** 4

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

- (8) Restrained, type unknown
- (9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

26. Seat Type (This Occupant Position) 01

- (00) Occupant not seated or no seat  
 (01) Bucket  
 (02) Bucket with folding back  
 (03) Bench  
 (04) Bench with separate back cushions  
 (05) Bench with folding back(s)  
 (06) Split bench with separate back cushions  
 (07) Split bench with folding back(s)  
 (08) Pedestal (i.e., van type)  
 (09) Other seat type (specify):  
 \_\_\_\_\_

(99) Unknown

27. Seat Performance (This Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat performance failure(s)  
     (check all that apply)  
☐ Seat adjusters failed  
☐ Seat back folding locks failed  
☐ Seat tracks failed  
☐ Seat anchors failed  
☐ Deformed by impact of passenger from rear  
☐ Deformed by impact of passenger from front  
☐ Deformed by own inertial forces  
☐ Deformed by passenger compartment intrusion (specify):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
☐ Other (specify):  
 \_\_\_\_\_

(9) Unknown

**CHILD SAFETY SEAT**28. Child Safety Seat Make/Model 000

- (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding, and Editing Manual  
 (997) Other make/model (specify):  
 \_\_\_\_\_

(998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0

- (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00

- (00) No child safety seat

Designed for Rear Facing for This Age/Weight

- (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 0032. Child Safety Seat Shield Usage 0033. Child Safety Seat Tether Usage 00

Note: Options below applicable to Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market harness/shield/tether added  
 (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****34. Injury Severity (Police Rating)** 1

- (0) O – No injury
- (1) C – Possible injury
- (2) B – Nonincapacitating injury
- (3) A – Incapacitating injury
- (4) K – Killed
- (5) U – Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**35. Treatment – Mortality** 4

- (0) No treatment
- (1) Fatal
- (2) Fatal – ruled disease
- Nonfatal
- (3) Hospitalized
- (4) Transported and released
- (5) Treatment at scene – nontransported
- (6) Treatment later
- (8) Treatment – other (specify): \_\_\_\_\_
- (9) Unknown

**36. Type of Medical Facility (for Initial Treatment)** 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

**37. Hospital stay** 00

- \_\_\_\_\_ Code number of days (up through 60) that the occupant stayed in the hospital
- (00) Not hospitalized
- (61) 61 days or more
- (99) Unknown

**38. Working Days Lost** 97

- \_\_\_\_\_ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**39. Time to Death** 00

- \_\_\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal – ruled disease
- (99) Unknown

**40. 1st Medically Reported Cause of Death** 00**41. 2nd Medically Reported Cause of Death** 00**42. 3rd Medically Reported Cause of Death** 00

- \_\_\_\_\_ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (97) Other result (specify): \_\_\_\_\_
- (99) Unknown

**43. Number of Recorded Injuries for This Occupant** 01

- \_\_\_\_\_ Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

UPDATE CANDIDATE

NO [☒]YES [☐]**\*\*\* STOP HERE \*\*\*****IF THERE ARE NO RECORDED INJURIES****(I.E., OA43=00, 97, 99)**





U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

3. Vehicle Number

2. Case Number—Stratum

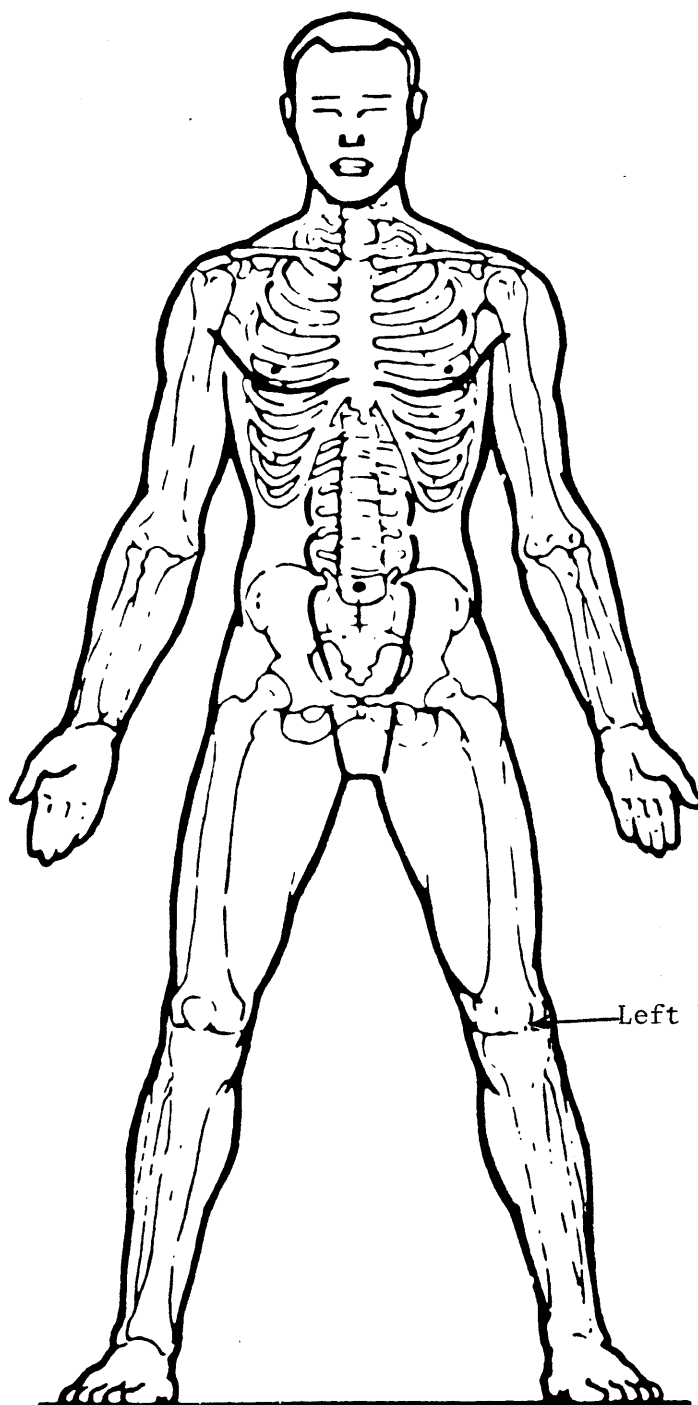
4. Occupant Number

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.—A.I.S.					Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
		Body Region	Aspect	Lesion	System Organ	A.I.S. Severity				
1st	5. <u>3</u>	6. <u>K</u>	7. <u>L</u>	8. <u>C</u>	9. <u>I</u>	10. <u>L</u>	11. <u>57</u>	12. <u>L</u>	13. <u>L</u>	14. <u>00</u>
2nd	15. <u>  </u>	16. <u>  </u>	17. <u>  </u>	18. <u>  </u>	19. <u>  </u>	20. <u>  </u>	21. <u>  </u>	22. <u>  </u>	23. <u>  </u>	24. <u>  </u>
3rd	25. <u>  </u>	26. <u>  </u>	27. <u>  </u>	28. <u>  </u>	29. <u>  </u>	30. <u>  </u>	31. <u>  </u>	32. <u>  </u>	33. <u>  </u>	34. <u>  </u>
4th	35. <u>  </u>	36. <u>  </u>	37. <u>  </u>	38. <u>  </u>	39. <u>  </u>	40. <u>  </u>	41. <u>  </u>	42. <u>  </u>	43. <u>  </u>	44. <u>  </u>
5th	45. <u>  </u>	46. <u>  </u>	47. <u>  </u>	48. <u>  </u>	49. <u>  </u>	50. <u>  </u>	51. <u>  </u>	52. <u>  </u>	53. <u>  </u>	54. <u>  </u>
6th	55. <u>  </u>	56. <u>  </u>	57. <u>  </u>	58. <u>  </u>	59. <u>  </u>	60. <u>  </u>	61. <u>  </u>	62. <u>  </u>	63. <u>  </u>	64. <u>  </u>
7th	65. <u>  </u>	66. <u>  </u>	67. <u>  </u>	68. <u>  </u>	69. <u>  </u>	70. <u>  </u>	71. <u>  </u>	72. <u>  </u>	73. <u>  </u>	74. <u>  </u>
8th	75. <u>  </u>	76. <u>  </u>	77. <u>  </u>	78. <u>  </u>	79. <u>  </u>	80. <u>  </u>	81. <u>  </u>	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>
9th	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>	93. <u>  </u>	94. <u>  </u>
10th	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>	104. <u>  </u>

AGE 17  
SEX MALE  
WT. 165 lbs.  
HT. 70"



Left knee contusion (AIS-1)

**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (eg. discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add-on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify): \_\_\_\_\_

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_

- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_

- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_

- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****O.I.C. Body Region**

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head-skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck-cervical spine
- (P) Pelvic-hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body

**(W) Wrist-hand****Aspect of Injury**

- (A) Anterior-front
- (B) Bilateral (rib fracture only)
- (C) Central
- (I) Inferior-lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior-back
- (R) Right
- (S) Superior-upper
- (W) Whole region

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush

**(G) Detachment, separation**

- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

**System/Organ**

- (W) All systems in region
- (A) Arteries-veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system

**(I) Integumentary**

- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary-lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

**OCCUPANT ASSESSMENT FORM**

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

11. Occupant's Posture

- (0) Normal posture
- 
- (1) Abnormal posture (specify):

(9) Unknown

**EJECTION/ENTRAPMENT****OCCUPANT'S CHARACTERISTICS**

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height

Code actual height to the nearest inch.

(99) Unknown

8. Occupant's Weight

Code actual weight to the nearest pound.

(999) Unknown

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

12. Ejection

(0) No ejection

(1) Complete ejection

(2) Partial ejection

(3) Ejection, unknown degree

(9) Unknown

13. Ejection Area

(0) No ejection

(1) Windshield

(2) Left front

(3) Right front

(4) Left rear

(5) Right rear

(6) Rear

(7) Roof

(8) Other area (e.g., back of pickup, etc.)

(specify):

(9) Unknown

14. Ejection Medium

(0) No ejection

(1) Door/hatch/tailgate

(2) Nonfixed roof structure

(3) Fixed glazing

(4) Nonfixed glazing (specify):

(5) Integral structure

(8) Other medium (specify):

(9) Unknown

15. Medium Status (Immediately Prior to Impact)

(0) No ejection

(1) Open

(2) Closed

(3) Integral structure

(9) Unknown

16. Entrapment

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

(0) Not entrapped

(1) Entrapped

(9) Unknown

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) Not available  
 (1) Belt removed/destroyed  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt available—type unknown  
 (8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**18. Manual (Active) Belt System Use** 04

- (00) None used, not available, or belt removed/destroyed  
 (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt  
 (03) Lap belt  
 (04) Lap and shoulder belt  
 (05) Belt used—type unknown  
 (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat  
 (13) Lap belt used with child safety seat  
 (14) Lap and shoulder belt used with child safety seat  
 (15) Belt used with child safety seat—type unknown  
 (18) Other belt used with child safety seat

(specify): \_\_\_\_\_

(99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 1

- (0) None used or not available  
 (1) Belt used properly  
 (2) Belt used properly with child safety seat

**Belt Used Improperly**

- (3) Shoulder belt worn under arm  
 (4) Shoulder belt worn behind back or seat  
 (5) Belt worn around more than one person  
 (6) Lap belt worn on abdomen  
 (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**20. Manual (Active) Belt Failure Modes During Accident** 1

- (0) No manual belt used or not available  
 (1) No manual belt failure(s)  
 (2) Manual belt failure(s) (check all that apply)  
☐ Torn webbing (stretched webbing not included)  
☐ Broken buckle or latchplate  
☐ Upper anchorage separated  
☐ Other anchorage separated (specify): \_\_\_\_\_

☐ Broken retractor

☐ Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

**21. Automatic (Passive) Restraint System Availability** 0

- (0) Not equipped/not available  
 (1) Airbag  
 (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled  
 (4) 2 point automatic belts  
 (5) 3 point automatic belts  
 (6) Automatic belts destroyed or rendered inoperative  
 (9) Unknown

**22. Automatic (Passive) Restraint Function** 0

- (0) Not equipped/not available

**Automatic Belt**

- (1) Automatic belt in use  
 (2) Automatic belt not in use  
 (3) Automatic belt use unknown

**Air Bag**

- (4) Airbag deployed during accident  
 (5) Airbag deployed inadvertently just prior to accident  
 (6) Deployed, accident sequence undetermined  
 (7) Nondeployed  
 (8) Unknown if deployed  
 (9) Unknown

**23. Did Automatic (Passive) Restraint Fail** 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify): \_\_\_\_\_

(9) Unknown

**24. Police Reported Restraint Use** 4

- (0) None used  
 (1) Police did not indicate restraint use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown

(9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints  
 (1) Integral—no damage  
 (2) Integral—damaged during accident  
 (3) Adjustable—no damage  
 (4) Adjustable—damaged during accident  
 (5) Add-on—no damage  
 (6) Add-on—damaged during accident  
 (8) Other (specify): \_\_\_\_\_

(9) Unknown

26. Seat Type (This Occupant Position) 03
- (00) Occupant not seated or no seat
  - (01) Bucket
  - (02) Bucket with folding back
  - (03) Bench
  - (04) Bench with separate back cushions
  - (05) Bench with folding back(s)
  - (06) Split bench with separate back cushions
  - (07) Split bench with folding back(s)
  - (08) Pedestal (i.e., van type)
  - (09) Other seat type (specify):

\_\_\_\_\_

(99) Unknown

27. Seat Performance (This Occupant Position) 1
- (0) Occupant not seated or no seat
  - (1) No seat performance failure(s)
  - (2) Seat performance failure(s)  
(check all that apply)
  - ☐ Seat adjusters failed
  - ☐ Seat back folding locks failed
  - ☐ Seat tracks failed
  - ☐ Seat anchors failed
  - ☐ Deformed by impact of passenger from rear
  - ☐ Deformed by impact of passenger from front
  - ☐ Deformed by own inertial forces
  - ☐ Deformed by passenger compartment intrusion (specify):

\_\_\_\_\_

☐ Other (specify):

\_\_\_\_\_

(9) Unknown

### CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000
- (000) No child safety seat
- Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
- (997) Other make/model (specify):

\_\_\_\_\_

(998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0
- (0) No child safety seat
  - (1) Infant seat
  - (2) Toddler seat
  - (3) Convertible seat
  - (4) Booster seat
  - (7) Other type child safety seat (specify):

\_\_\_\_\_

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00
- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
  - (02) Forward facing
  - (08) Other orientation (specify):

\_\_\_\_\_

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

\_\_\_\_\_

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

\_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00

32. Child Safety Seat Shield Usage 00

33. Child Safety Seat Tether Usage 00

Note: Options below applicable to Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****34. Injury Severity (Police Rating)**3

- (0) O – No injury
- (1) C – Possible injury
- (2) B – Nonincapacitating injury
- (3) A – Incapacitating injury
- (4) K – Killed
- (5) U – Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**35. Treatment – Mortality**3

- (0) No treatment
- (1) Fatal
- (2) Fatal – ruled disease

Nonfatal

- (3) Hospitalized
- (4) Transported and released
- (5) Treatment at scene – nontransported
- (6) Treatment later
- (8) Treatment – other (specify):

(9) Unknown

**36. Type of Medical Facility (for Initial Treatment)**2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

**37. Hospital stay**05

- \_\_\_\_ Code number of days (up through 60) that the occupant stayed in the hospital
- (00) Not hospitalized
  - (61) 61 days or more
  - (99) Unknown

**38. Working Days Lost**99

- \_\_\_\_ Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
  - (61) 61 days or more
  - (62) Fatally injured
  - (97) Not working prior to accident
  - (99) Unknown

**39. Time to Death**00

- \_\_\_\_ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
  - (96) Fatal – ruled disease
  - (99) Unknown

**40. 1st Medically Reported Cause of Death**00**41. 2nd Medically Reported Cause of Death**00**42. 3rd Medically Reported Cause of Death**00

- \_\_\_\_ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
  - (97) Other result (specify):

(99) Unknown

**43. Number of Recorded Injuries for This Occupant**04

- \_\_\_\_ Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
  - (97) Injured, details unknown
  - (99) Unknown if injured

UPDATE CANDIDATE

NO [☒]

YES [ ]

**\*\*\* STOP HERE \*\*\***

**IF THERE ARE NO RECORDED INJURIES**  
**(I.E., OA43=00, 97, 99)**





## OCCUPANT INJURY FORM

1. Primary Sampling Unit Number        3. Vehicle Number 01  
2. Case Number—Stratum 90-01 4. Occupant Number 03

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

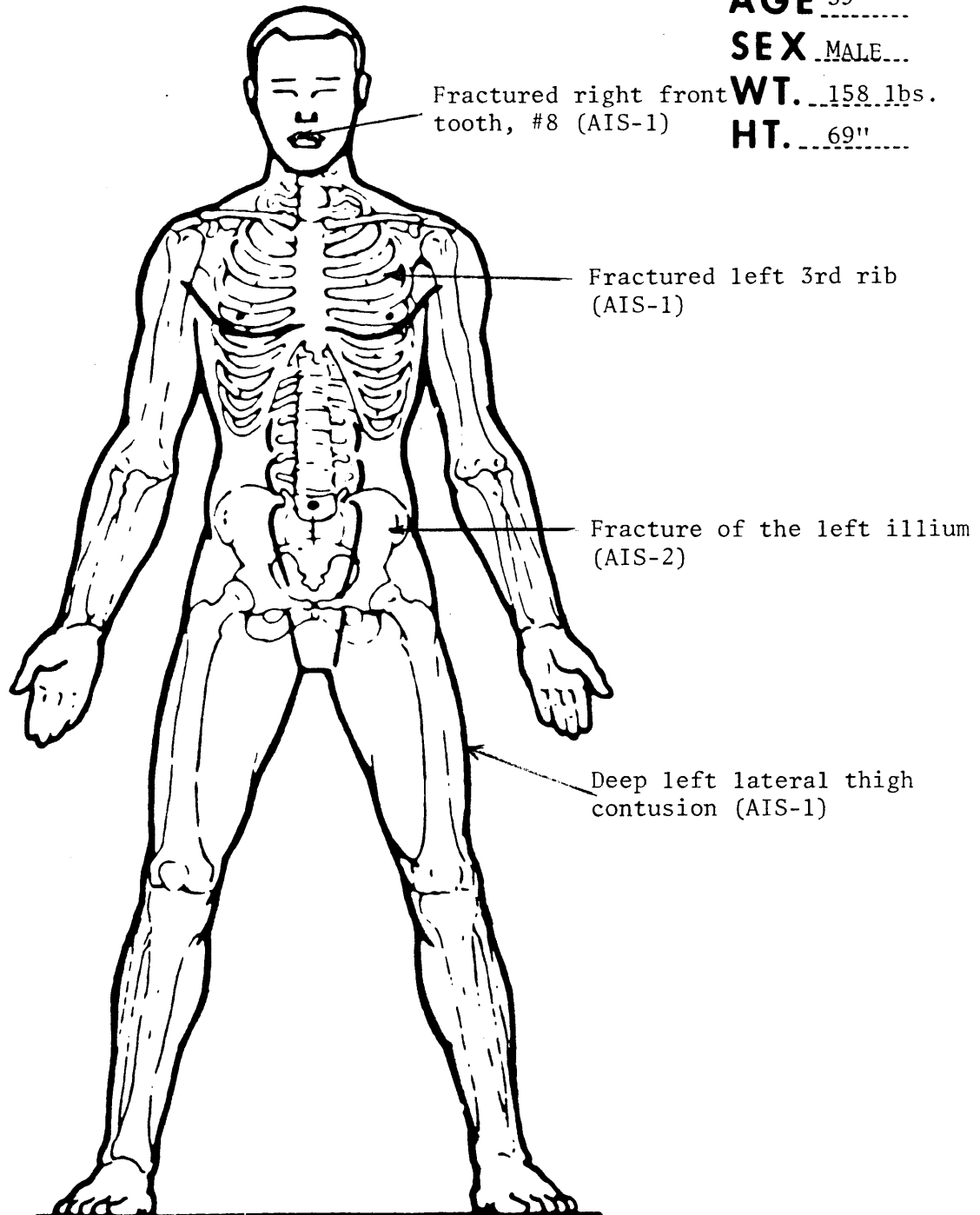
	Source of Injury Data	O.I.C.—A.I.S.					Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
		Body Region	Aspect	Lesion	System Organ	A.I.S. Severity				
1st	5. <u>2</u>	6. <u>P</u>	7. <u>L</u>	8. <u>F</u>	9. <u>S</u>	10. <u>2</u>	11. <u>20</u>	12. <u>1</u>	13. <u>1</u>	14. <u>02</u>
2nd	15. <u>2</u>	16. <u>T</u>	17. <u>L</u>	18. <u>C</u>	19. <u>I</u>	20. <u>1</u>	21. <u>21</u>	22. <u>1</u>	23. <u>1</u>	24. <u>02</u>
3rd	25. <u>2</u>	26. <u>C</u>	27. <u>L</u>	28. <u>F</u>	29. <u>S</u>	30. <u>1</u>	31. <u>20</u>	32. <u>1</u>	33. <u>1</u>	34. <u>02</u>
4th	35. <u>2</u>	36. <u>F</u>	37. <u>I</u>	38. <u>F</u>	39. <u>S</u>	40. <u>1</u>	41. <u>12</u>	42. <u>1</u>	43. <u>3</u>	44. <u>00</u>
5th	45. <u>  </u>	46. <u>  </u>	47. <u>  </u>	48. <u>  </u>	49. <u>  </u>	50. <u>  </u>	51. <u>  </u>	52. <u>  </u>	53. <u>  </u>	54. <u>  </u>
6th	55. <u>  </u>	56. <u>  </u>	57. <u>  </u>	58. <u>  </u>	59. <u>  </u>	60. <u>  </u>	61. <u>  </u>	62. <u>  </u>	63. <u>  </u>	64. <u>  </u>
7th	65. <u>  </u>	66. <u>  </u>	67. <u>  </u>	68. <u>  </u>	69. <u>  </u>	70. <u>  </u>	71. <u>  </u>	72. <u>  </u>	73. <u>  </u>	74. <u>  </u>
8th	75. <u>  </u>	76. <u>  </u>	77. <u>  </u>	78. <u>  </u>	79. <u>  </u>	80. <u>  </u>	81. <u>  </u>	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>
9th	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>	93. <u>  </u>	94. <u>  </u>
10th	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>	104. <u>  </u>

**AGE** 39

**SEX** MALE

**WT.** 158 lbs.

**HT.** 69"



**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (eg. discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify): \_\_\_\_\_

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_
- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_

- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_

- (97) Injured, unknown source

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add-on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_

- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****O.I.C. Body Region**

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head-skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck-cervical spine
- (P) Pelvic-hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body

**(W) Wrist-hand****Aspect of Injury**

- (A) Anterior-front
- (B) Bilateral (rib fracture only).
- (C) Central
- (I) Inferior-lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior-back
- (R) Right
- (S) Superior-upper
- (W) Whole region

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush

**(G) Detachment, separation**

- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

**System/Organ**

- (W) All systems in region
- (A) Arteries-veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system

**(I) Integumentary**

- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary-lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity

## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height

Code actual height to the nearest inch.

(99) Unknown

8. Occupant's Weight

Code actual weight to the nearest pound.

(999) Unknown

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

(1) Abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection

(0) No ejection

(1) Complete ejection

(2) Partial ejection

(3) Ejection, unknown degree

(9) Unknown

13. Ejection Area

(0) No ejection

(1) Windshield

(2) Left front

(3) Right front

(4) Left rear

(5) Right rear

(6) Rear

(7) Roof

(8) Other area (e.g., back of pickup, etc.)

(specify):

(9) Unknown

14. Ejection Medium

(0) No ejection

(1) Door/hatch/tailgate

(2) Nonfixed roof structure

(3) Fixed glazing

(4) Nonfixed glazing (specify):

(5) Integral structure

(8) Other medium (specify):

(9) Unknown

15. Medium Status (Immediately Prior to Impact)

(0) No ejection

(1) Open

(2) Closed

(3) Integral structure

(9) Unknown

16. Entrapment

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

(0) Not entrapped

(1) Entrapped

(9) Unknown

**RESTRAINT SYSTEM AND SEAT EVALUATION****17. Manual (Active) Belt System Availability** 4

- (0) Not available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown
- (8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**18. Manual (Active) Belt System Use** 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat

(specify): \_\_\_\_\_

(99) Unknown if belt used

**19. Proper Use of Manual (Active) Belts** 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

**Belt Used Improperly**

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

**20. Manual (Active) Belt Failure Modes During Accident** 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Manual belt failure(s) (check all that apply)
- [ ] Torn webbing (stretched webbing not included)
- [ ] Broken buckle or latchplate
- [ ] Upper anchorage separated
- [ ] Other anchorage separated (specify): \_\_\_\_\_

[ ] Broken retractor

[ ] Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

**21. Automatic (Passive) Restraint System Availability** 0

- (0) Not equipped/not available
- (1) Airbag
- (2) Airbag disconnected (specify): \_\_\_\_\_

- (3) Airbag not reinstalled
- (4) 2 point automatic belts
- (5) 3 point automatic belts
- (6) Automatic belts destroyed or rendered inoperative
- (9) Unknown

**22. Automatic (Passive) Restraint Function** 0

- (0) Not equipped/not available

**Automatic Belt**

- (1) Automatic belt in use
- (2) Automatic belt not in use
- (3) Automatic belt use unknown

**Air Bag**

- (4) Airbag deployed during accident
- (5) Airbag deployed inadvertently just prior to accident
- (6) Deployed, accident sequence undetermined
- (7) Nondeployed
- (8) Unknown if deployed
- (9) Unknown

**23. Did Automatic (Passive) Restraint Fail** 0

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown

**24. Police Reported Restraint Use** 4

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown

(9) Police indicated "unknown"

**25. Head Restraint Type/Damage by Occupant at This Occupant Position** 3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

26. Seat Type (This Occupant Position) 03
- (00) Occupant not seated or no seat
  - (01) Bucket
  - (02) Bucket with folding back
  - (03) Bench
  - (04) Bench with separate back cushions
  - (05) Bench with folding back(s)
  - (06) Split bench with separate back cushions
  - (07) Split bench with folding back(s)
  - (08) Pedestal (i.e., van type)
  - (09) Other seat type (specify):

\_\_\_\_\_

(99) Unknown

27. Seat Performance (This Occupant Position) 1
- (0) Occupant not seated or no seat
  - (1) No seat performance failure(s)
  - (2) Seat performance failure(s)  
(check all that apply)
  - ☐ Seat adjusters failed
  - ☐ Seat back folding locks failed
  - ☐ Seat tracks failed
  - ☐ Seat anchors failed
  - ☐ Deformed by impact of passenger from rear
  - ☐ Deformed by impact of passenger from front
  - ☐ Deformed by own inertial forces
  - ☐ Deformed by passenger compartment intrusion (specify):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ Other (specify):

\_\_\_\_\_

(9) Unknown

### CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000
- (000) No child safety seat
- Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
- (997) Other make/model (specify):

\_\_\_\_\_

(998) Unknown make/model

(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0
- (0) No child safety seat
  - (1) Infant seat
  - (2) Toddler seat
  - (3) Convertible seat
  - (4) Booster seat
  - (7) Other type child safety seat (specify):

\_\_\_\_\_

(8) Unknown child safety seat type

(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00
- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
  - (02) Forward facing
  - (08) Other orientation (specify):

\_\_\_\_\_

(09) Unknown orientation

- Designed for Forward Facing for This Age/Weight
- (11) Rear facing
  - (12) Forward facing
  - (18) Other orientation (specify):

\_\_\_\_\_

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

\_\_\_\_\_

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00

32. Child Safety Seat Shield Usage 00

33. Child Safety Seat Tether Usage 00

Note: Options below applicable to Variables OA31-OA33.

- (00) No child safety seat

Not Designed with  
Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****34. Injury Severity (Police Rating)**

- (0) O – No injury  
(1) C – Possible injury  
(2) B – Nonincapacitating injury  
(3) A – Incapacitating injury  
(4) K – Killed  
(5) U – Injury, severity unknown  
(6) Died prior to accident  
(9) Unknown

2**35. Treatment – Mortality**

- (0) No treatment  
(1) Fatal  
(2) Fatal – ruled disease
- Nonfatal  
(3) Hospitalized  
(4) Transported and released  
(5) Treatment at scene – nontransported  
(6) Treatment later  
(8) Treatment – other (specify):

4

(9) Unknown

**36. Type of Medical Facility (for Initial Treatment)**

- (0) Not treated at a medical facility  
(1) Trauma center  
(2) Hospital  
(3) Medical clinic  
(4) Physician's office  
(5) Treatment later at medical facility  
(8) Other (specify):

2

(9) Unknown

**37. Hospital stay**

- \_\_\_\_ Code number of days (up through 60)  
that the occupant stayed in the hospital  
(00) Not hospitalized  
(61) 61 days or more  
(99) Unknown

00**38. Working Days Lost**

- \_\_\_\_ Code the number of days  
(up through 60) that the occupant  
lost from work due to the accident  
(00) No working days lost  
(61) 61 days or more  
(62) Fatally injured  
(97) Not working prior to accident  
(99) Unknown

99**39. Time to Death**

- \_\_\_\_ Code number of hours from time of  
accident to time of death up through 24  
hours. If time of death is greater than 24  
hours, code number of days. (Note: 1 day =  
31, 2 days = 32, ... n days = 30 + n up through  
30 days = 60)  
(00) Not fatal  
(96) Fatal – ruled disease  
(99) Unknown

00**40. 1st Medically Reported Cause of Death**00**41. 2nd Medically Reported Cause of Death**00**42. 3rd Medically Reported Cause of Death**00

- \_\_\_\_ Code the Occupant Injury from line  
number(s) for the medically reported  
injury(s) which reportedly contributed to  
this occupant's death  
(00) Not fatal or no additional causes  
(97) Other result (specify):

(99) Unknown

**43. Number of Recorded Injuries for  
This Occupant**

- \_\_\_\_ Code the actual number of  
injuries recorded for this occupant.  
(00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

01

UPDATE CANDIDATE

NO [ ☒ ]YES [ ☐ ]**\*\*\* STOP HERE \*\*\*****IF THERE ARE NO RECORDED INJURIES  
(I.E., OA43=00, 97, 99)**





U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT INJURY FORM

1. Primary Sampling Unit Number

3. Vehicle Number

01

2. Case Number—Stratum

10-01

4. Occupant Number

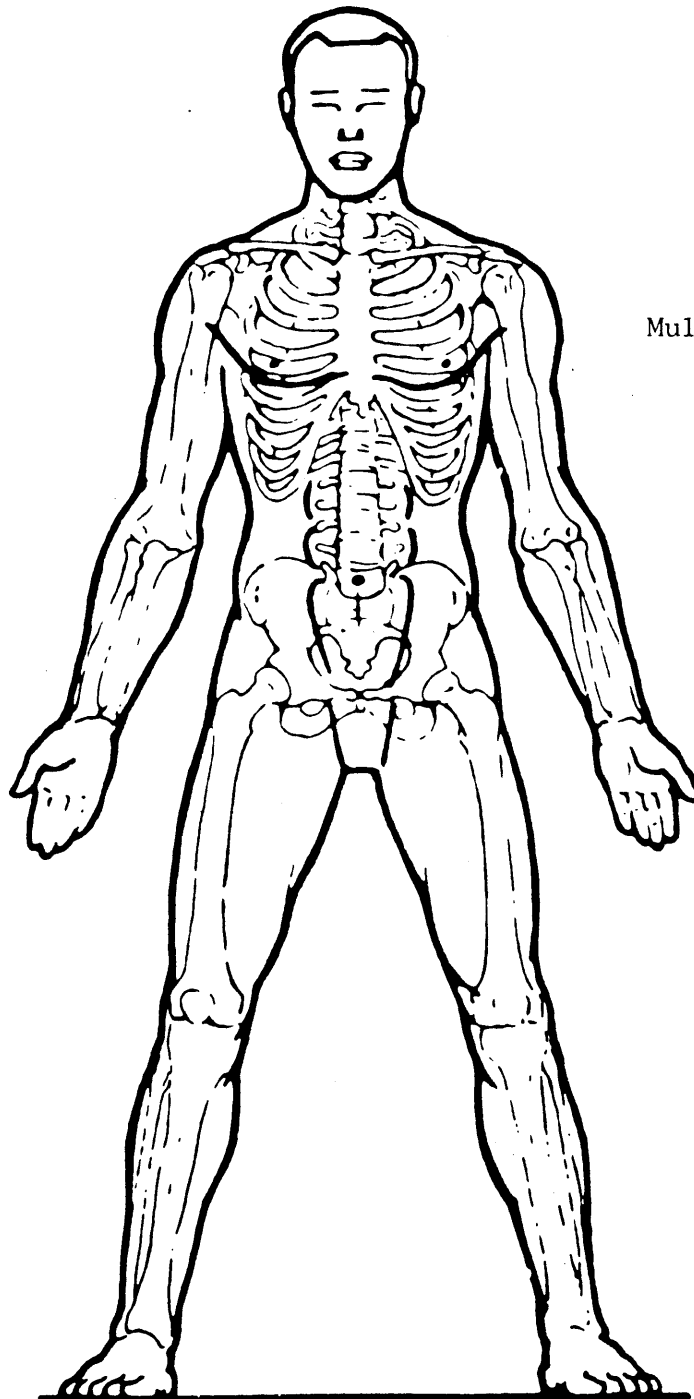
04

### INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.—A.I.S.					Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
		Body Region	Aspect	Lesion	System Organ	A.I.S. Severity				
1st	5. <u>2</u>	6. <u>0</u>	7. <u>W</u>	8. <u>C</u>	9. <u>I</u>	10. <u>1</u>	11. <u>41</u>	12. <u>2</u>	13. <u>1</u>	14. <u>00</u>
2nd	15. ____	16. ____	17. ____	18. ____	19. ____	20. ____	21. ____	22. ____	23. ____	24. ____
3rd	25. ____	26. ____	27. ____	28. ____	29. ____	30. ____	31. ____	32. ____	33. ____	34. ____
4th	35. ____	36. ____	37. ____	38. ____	39. ____	40. ____	41. ____	42. ____	43. ____	44. ____
5th	45. ____	46. ____	47. ____	48. ____	49. ____	50. ____	51. ____	52. ____	53. ____	54. ____
6th	55. ____	56. ____	57. ____	58. ____	59. ____	60. ____	61. ____	62. ____	63. ____	64. ____
7th	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____	71. ____	72. ____	73. ____	74. ____
8th	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____	81. ____	82. ____	83. ____	84. ____
9th	85. ____	86. ____	87. ____	88. ____	89. ____	90. ____	91. ____	92. ____	93. ____	94. ____
10th	95. ____	96. ____	97. ____	98. ____	99. ____	100. ____	101. ____	102. ____	103. ____	104. ____

AGE 39  
SEX FEMALE  
WT. 145 lbs.  
HT. 65"



Multiple contusions (AIS-1)

**SOURCE OF INJURY DATA****OFFICIAL**

- (1) Autopsy records with or without hospital medical records
- (2) Hospital medical records other than emergency room (eg. discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

**UNOFFICIAL**

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

**INJURY SOURCE****FRONT**

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add-on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): \_\_\_\_\_

**LEFT SIDE**

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A pillar
- (23) Left B pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame

- (26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail
- (27) Other left side object (specify): \_\_\_\_\_

**RIGHT SIDE**

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A pillar
- (33) Right B pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, roof side rail
- (37) Other right side object (specify): \_\_\_\_\_

**INTERIOR**

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_

- (44) Head restraint system
- (45) Air bag
- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_

- (49) Other interior object (specify): \_\_\_\_\_

**ROOF**

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

**FLOOR**

- (56) Floor including toe pan
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

**REAR**

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

**EXTERIOR OF OCCUPANT'S VEHICLE**

- (65) Hood
- (66) Outside hardware (e.g., outside mirror, antenna)
- (67) Other exterior surface or tires (specify): \_\_\_\_\_
- (68) Unknown exterior objects

**EXTERIOR OF OTHER MOTOR VEHICLE**

- (70) Front bumper
- (71) Hood edge
- (72) Other front of vehicle (specify): \_\_\_\_\_

- (73) Hood
- (74) Hood ornament
- (75) Windshield, roof rail, A-pillar
- (76) Side surface
- (77) Side mirrors
- (78) Other side protrusions (specify): \_\_\_\_\_

- (79) Rear surface
- (80) Undercarriage
- (81) Tires and wheels
- (82) Other exterior of other motor vehicle (specify): \_\_\_\_\_

- (83) Unknown exterior of other motor vehicle

**OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT**

- (84) Ground
- (85) Other vehicle or object (specify): \_\_\_\_\_

- (86) Unknown vehicle or object

**NONCONTACT INJURY**

- (90) Fire in vehicle
- (91) Flying glass
- (92) Other noncontact injury source (specify): \_\_\_\_\_

- (97) Injured, unknown source

**INJURY SOURCE CONFIDENCE LEVEL**

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

**DIRECT/INDIRECT INJURY**

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

**OCCUPANT INJURY CLASSIFICATION****O.I.C. Body Region**

- (M) Abdomen
- (Q) Ankle-foot
- (A) Arm (upper)
- (B) Back-thoracolumbar spine
- (C) Chest
- (E) Elbow
- (F) Face
- (R) Forearm
- (H) Head-skull
- (U) Injured, unknown region
- (K) Knee
- (L) Leg (lower)
- (Y) Lower limb(s) (whole or unknown part)
- (N) Neck-cervical spine
- (P) Pelvic-hip
- (S) Shoulder
- (T) Thigh
- (X) Upper limb(s) (whole or unknown part)
- (O) Whole body

(W) Wrist-hand

**Aspect of Injury**

- (A) Anterior-front
- (B) Bilateral (rib fracture only).
- (C) Central
- (I) Inferior-lower
- (U) Injured, unknown aspect
- (L) Left
- (P) Posterior-back
- (R) Right
- (S) Superior-upper
- (W) Whole region

**Lesion**

- (A) Abrasion
- (M) Amputation
- (V) Avulsion
- (B) Burn
- (K) Concussion
- (C) Contusion
- (N) Crush

(G) Detachment, separation

- (D) Dislocation
- (F) Fracture
- (Z) Fracture and dislocation
- (U) Injured, unknown lesion
- (L) Laceration
- (O) Other
- (P) Perforation, puncture
- (R) Rupture
- (S) Sprain
- (T) Strain
- (E) Total severance, transection

**System/Organ**

- (W) All systems in region
- (A) Arteries-veins
- (B) Brain
- (D) Digestive
- (E) Ears
- (O) Eye
- (H) Heart
- (U) Injured, unknown system

(I) Integumentary

- (J) Joints
- (K) Kidneys
- (L) Liver
- (M) Muscles
- (N) Nervous system
- (P) Pulmonary-lungs
- (R) Respiratory
- (S) Skeletal
- (C) Spinal cord
- (Q) Spleen
- (T) Thyroid, other endocrine gland
- (G) Urogenital
- (V) Vertebrae

**Abbreviated Injury Scale**

- (1) Minor injury
- (2) Moderate injury
- (3) Serious injury
- (4) Severe injury
- (5) Critical injury
- (6) Maximum (untreatable)
- (7) Injured, unknown severity